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REPORT

OF THE

FEDERAL TRADE COMMISSION

ON

WHEAT PRICES

FOR THE 1920 CROP

DECEMBER 13, 1920

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FEDERAL TRADE COMMISSION.

HUSTON THOMPSON, *Chairman.*
NELSON B. GASKILL.
JOHN GARLAND POLLARD.
VICTOR MURDOCK.
J. P. YODER, *Secretary.*

OCT 15 1937
T.M.L.

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ACKNOWLEDGMENT.

For the conduct of the investigation and the preparation of the report acknowledgment is made of the services of Mr. G. P. Watkins.

LETTER OF SUBMITTAL.

FEDERAL TRADE COMMISSION,
Washington, December 13, 1920.

SIR: Pursuant to your request of October 12, 1920, an inquiry was made concerning the cause of the recent decline in wheat prices and what remedial action properly could be taken:

Information has been sought from farmers and farmers' organizations, grain traders and flour millers, besides many others conversant with the facts concerning the situation. Pertinent statistical data were also examined.

The following conclusions, submitted with the report herewith, are reached.

In the matter of possible remedies:

First. The Commission believes, subject of course to the opinion of the Attorney General, that the President of the United States has no power under existing law to shut out wheat imports in the present situation by embargo, import duties or otherwise.

Second. The President of the United States apparently has certain powers under the Lever Act to stop future trading in wheat. In view of the divergence of opinions upon the possible efficacy of such action, and of the failure of the wheat futures market to perform satisfactorily the functions of stabilization and insurance which its advocates have claimed for it, if regulatory or other action is to be employed in the matter of future trading, consideration of the question by the Congress, and legislation not connected with war powers, are indicated.

Third. If foreign Governments are to maintain, for some time to come, buying commissions with concentrated purchases, the desirability of the United States meeting them through a selling organization should be seriously considered.

In the matter of causes of the recent decline in price:

First. The world outlook of supply has played an important part. Although the yield for 1920 in the United States was considerably less than in 1919, the yield for 1920 in Canada was greater than in 1919, and the world yield for the crop year 1920 will probably be larger than that for 1919.

Second. Foreign governmental buying concentrated in commissions, which previously met a single seller in the United States market and now does not, has been characterized by heavy purchases in the spring of 1920 and by slack purchases later, and is thus involved in the decline.

Third. Unprecedented importations of wheat from Canada during the fall of 1920, following an unprecedented yield and a discount in rate of exchange, have contributed to the decline.

Fourth. The record-breaking yield of corn in 1920 and the large yield of oats have been factors in the depression of the price of wheat.

Fifth. The slackening in domestic demand for flour during the latter half of 1920 also has entered into the falling wheat market.

Sixth. The tendency to decline in many commodities has had its effect upon wheat prices.

Seventh. The change in credit conditions, with the resulting disposition of distributors to refrain from accumulating or maintaining usual stocks has had its bearing.

An amplification of the conclusions above is appended:

(1) There was a marked decline in the prices of cash wheat in the terminal markets from prices slightly exceeding $3 a bushel in May, 1920, to prices only slightly exceeding $2 in October. During November a further heavy decline in cash prices has occurred. In arriving at a satisfactory basis of comparison it should be pointed out that terminal market prices in the spring of 1920 were stimulated by transportation difficulties.

(2) At the beginning of the harvest in the Southwest, prices were still comparatively high, although crop prospects for the United States were better than have since been actually realized. Rust in large sections of the Northwest caused a marked deterioration in the quality and reduction in the quantity of spring wheat.

(3) The wheat crop in this country proved to be of average size only, but that of Canada, which matured later, has proved unusually large. The news from India, Argentina, and Australia, also indicates improved crop conditions. Hence the world outlook indicates a larger supply than was expected a few months ago, and the world crop for the crop year 1920 will probably be greater than that for 1919, although the yield for the United States for 1920 is less by 190,000,000 bushels than the yield for 1919.

(4) The change noted in the price situation was also influenced by the course of export buying. Early in the summer purchases were being made on a very large scale, especially by the British Royal Commission and other foreign Governments. At the close of July buying began to slacken, and the British buying ceased almost entirely. The buying policy of the British Royal Commission caused abnormal price movements. Viewed in retrospect the policy of the commission would seem to have had the result that its supplies have cost it more than if its purchases had been evenly distributed. The policy of the British Royal Commission, which involved a holding off from the market, doubtless accentuated the decline in prices between July and October.

(5) Another price-depressing factor was the large importation of wheat from Canada, which assumed unprecedented proportions in October. The information obtained indicates that the Canadian wheat has been brought in by millers. Most of it has gone to Buffalo and Minneapolis, and the comparatively small quantity going to Chicago has mostly gone to mills. Millers have imported it partly on account of the comparative prices (allowance being made for exchange rates) but also because the quality of the Canadian wheat was especially suited to their requirements.

(6) Whether the so-called "statistical position" of wheat is actually less favorable to high prices now than early in July, 1920, is a

matter about which there is difference of opinion. The exportable surplus of the United States for the 1920 crop has nearly all gone abroad, but exports may continue to be made from this country, if the Canadian surplus continues to be imported.

(7) Another price-depressing factor is the record breaking corn crop, as well as a large crop of oats. The decline in the price of corn has had a direct effect on the price of wheat. The lower prices now current for mill feeds or flour by-products, partly because of the cheapness of corn, have tended to reduce the price of wheat.

(8) The domestic demand for flour has shown a marked slackening since July 1, 1920, and this has been a depressing influence on the price of wheat. Jobbers and bakers appear to have been using reserve stocks of flour, instead of buying, and families also are believed to have been drawing to a considerable extent upon previously accumulated stocks.

(9) Because of comparative ocean freight rates, which were more for flour than for wheat, and because it is the policy of foreign Governments to buy wheat rather than flour, the foreign demand for American flour has been small. Since this inquiry was initiated the Shipping Board has reduced the differential against flour from 25 cents per hundredweight to 5 cents.

(10) The tendency to a decline in prices for many commodities has been evident since the beginning of this summer. Wheat has declined less than many commodities, and less than most agricultural products, on the basis of wholesale prices.

(11) Credit and business conditions are not the same as they were a year ago or even a few months ago. This is not merely a matter of psychology. There has been doubtless a decrease in the inclination to purchase, and there has been some decrease in purchasing power. Credit conditions apparently have caused distributers and dealers in wheat and flour to refrain from accumulating or maintaining the usual stocks, and to operate on a hand-to-mouth basis. Included in the credit conditions referred to are a high rate of interest and an unavailability of loanable funds.

(12) Restriction of credit has followed a period of expansion and high prices. The policy of the banks in granting credits is not controlled by the Federal Reserve Board. Its advice has been of the nature of a warning as to conditions in pursuing a conservative policy with respect to rediscount rates and the protection of the banking reserves of the country.

(13) Prices of wheat futures, the decline in which has been especially the subject of criticism, are susceptible of manipulation. Wide fluctuations in prices and large discounts of the future price below the cash price have prevailed. This has made it unsatisfactory for "hedging," and hedging sales may also appear to be manipulative, because, if they are large, they may cause sharp depressions. Wheat futures are not functioning well, even according to the standards of their advocates.

(14) The wheat futures market is comparatively narrow. There is a relatively limited quantity of pit scalping and speculation, and also probably a smaller quantity, though a larger proportion, of hedging. Trades in the important futures at Chicago during the past few months have been approximately as follows:

Month.	Wheat.	Corn.	Oats.	Three combined.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
August	86,000,000	892,000,000	256,000,000	1,234,000,000
September	196,000,000	1,022,000,000	276,000,000	1,494,000,000
October	484,000,000	903,000,000	271,000,000	1,658,000,000
PER CENT DISTRIBUTION.				
August	7.0	72.3	20.7	100.0
September	13.1	68.4	18.5	100.0
October[1]	29.2	54.5	16.3	100.0

[1] October figures are somewhat increased above those originally reported, by reason of the inclusion of belated returns. Also the figure for September for trading in oats has been decreased by 16,000,000 to correct a duplication.

Total trading appears to be not much less than for corresponding months in periods of heavy trading before the war, but prior to the war wheat usually accounted for at least half of the total future trading. Since July 15 corn has ranked first as regards volume of future trading and wheat has not yet quite reached 30 per cent of the total for the three long established grain futures. It does not appear, therefore, that the wheat futures market could be made to work better by merely limiting the quantity of future trading.

(15) The Commission has not had the opportunity to obtain directly the figures which would determine conclusively whether large transactions in futures of a manipulative nature have occurred. It has sought but has not been able to secure the cooperation of the officers and directors of the Chicago Board of Trade deemed necessary for the collection of pertinent information in this matter. The limited evidence available does not establish manipulation of wheat prices by large operators in futures, nor that the recent low average, or downward trend of wheat prices, has been due to speculative manipulation.

(16) The sudden fall in the price of wheat, before there was a decline in the cost of producing it, has caused great hardship to many farmers, especially to those who did not harvest a full crop.

(17) Apparently the President of the United States has no power to shut out wheat imports by embargo, import duty or otherwise. Moreover, it is questionable whether such a proceeding would have the effect its advocates expect, because the United States and Canada both have surpluses to export, and will meet each other in competition either here or in Europe. This also appears to be the view of some leading representatives of farmers' organizations.

(18) Under the Lever Act of August 10, 1917, the President of the United States has certain powers regarding the grain exchanges which would make it possible for him to stop future trading in wheat. While evidence is not available that future trading is responsible for the decline in wheat prices, it does not appear that future trading in wheat, as at present operating, is of indisputable service to the grain trade. A limitation on the volume of open speculative trades in wheat, similar to the limitations placed on corn speculation during the period of Government control, would probably tend to reduce the possibility of manipulative trading.

After the proclamation of peace the above-mentioned act expires, and then any prohibition or regulation deemed advisable would have to be provided by new legislation.

(19) Concentrated buying by foreign Governments may be deemed necessary especially where such Governments have fixed prices for flour irrespective of the price of wheat. If such Government buying is manipulative, however, and if it is to be continued for some time to come, it would seem desirable that it should be counteracted by a Government selling organization in this country. Even if such foreign buying is not intentionally manipulative, there is no reason why producers in this country should be subjected thereby to loss through unnecessarily fluctuating prices.

(20) The decline in wheat prices would appear to be in part due to country-wide and world-wide conditions. Abrupt changes in prices and comparatively low prices have occurred following changes in volume of production, variations in demand from year to year, and marketing unevenly distributed through the seasons. An improvement in the situation would follow from greater regularity of production from year to year in so far as such regularity is subject to human achievement, and a more even marketing of grain through the year.

(21) While the Commission believes that speculation in wheat futures is not an indispensable part of the marketing process and may sometimes be highly injurious, the Commission is not in this report passing upon the whole subject of future trading. Future contracts may have a legitimate use for "hedging." In this connection it is claimed that future trading performs an insurance function where ordinary insurance methods would not be practicable and that undue restriction of future trading such as would deprive the grain trade of this service might result in grain dealers requiring larger margins and consequently result either in lower prices to the farmer or higher prices to the consumer. Without now expressing an opinion on this subject, it appears that there is a large volume of future trading that is mere gambling and involves a great economic waste. The remedy for this lies in congressional action to prevent trading which is essentially gambling.

The matter of future trading in grain is to be given extended treatment in a forthcoming volume of the report upon the grain trade.

Respectfully,

HUSTON THOMPSON, *Chairman.*

The PRESIDENT.

WHEAT PRICES FOR THE 1920 CROP.[1]

Section 1. Origin of inquiry.

The present investigation was undertaken at the request of the President as conveyed in a letter from the President's secretary to the Federal Trade Commission, dated October 12, 1920, which reads as follows:

By direction of the President I am sending you herewith copies of communications concerning the wheat situation, as well as copies of our replies thereto. The President has requested me to ask the Commission and the Department of Agriculture to look into the matter at the earliest possible moment with a view to determining what, if anything, can properly be done.

The communications referred to were nearly all telegrams. The numerous telegrams received from the Northwest were mainly signed on behalf of various local commercial and other organizations. The typical phrasing of most of the telegrams was as follows:

Admission Canada grain helps efforts big grain gamblers to lower price of grain. We ask instant embargo on Canadian grain and immediate prosecution gamblers in grain. Health and welfare of families of farmers and workers seriously menaced. Situation intolerable. North Dakota women and children demand action.

An illustration of the telegrams received from commercial organizations is as follows:

We wish to join with the other business interests of this and neighboring States in earnestly urging that you take immediate action to protect the farmers of this and other States from surplus Canadian wheat crop which is being dumped into this country and which is so disastrously affecting the prices of all grain and forcing them down below the cost of production. Farmers are surely entitled to this protection and relief.

A considerable number of telegrams specifically requested the use of the antidumping clause of the present tariff law. An example of this is the following telegram addressed to the governor of Montana by a commercial club and by him transmitted to the President:

Owing to the wheat and flour being dumped into the United States from Canada at a price below the cost of production here, we urge you to ask the President to place in force at once the antidumping clause of the protective tariff.

Nearly all the telegrams in question came from North Dakota, although a few came from Minnesota, South Dakota, Montana, and Idaho; and most of them were dated from the 11th to the 16th of October.

Complaint was also made from the grain-producing Southwest. The complaint in this case is directed against the Chicago Board of Trade, although Canadian imports also receive attention, and the remedy suggested was therefore in part different. Gov. Allen, of Kansas, under date of October 6, 1920, in a letter to the President, voiced the protest from this section, as follows:

The situation confronting the wheat farmers of this section is rendered exceedingly unfortunate by the sensational break in the market. The heavy and

[1] Certain minor changes were made in the report as submitted to the President before sending the copy to the printer.

unnatural decline is believed to be due to two causes, the purchase in the United States of Canadian wheat, and the manipulation of prices by speculators upon the Chicago Board of Trade. Since the removal of all tariff restrictions and with the added advantage which Canada has in her money exchange and her cheaper costs of production she is able to make a price lower than the United States farmer can afford to accept. This has been seized upon by the wheat gamblers as a means of driving our wheat prices down to Canadian levels. In case no relief can be granted by you under present laws for the protection of the home farmers against free Canadian wheat, then it is believed that some favorable results might be obtained by an investigation into the manipulation of the Chicago Board of Trade. In the interest of the farmers of this section, who are menaced by an actual loss, which will reach into millions of dollars, I am bringing this matter to your attention with the urgent request that you cause to be made a searching investigation of the present operations in the wheat market by the Chicago Board of Trade.

The facts are first discussed below while the remedies proposed are considered in detail at the end of this report. It may be noted here, however, that the President of the United States apparently does not have the power to lay an embargo on wheat, nor, under the existing trade conditions, to levy an antidumping duty thereon.

Section 2. The supply of wheat.

The United States crop for 1920 is very considerably less in size than the crop for 1919. The final figure for 1919 was 941,000,000 bushels. The October 1 estimate (which is also the November 1 estimate) for 1920 is 751,000,000 bushels. Since the spring wheat crop has already been harvested the final figure for 1920 will doubtless be very little different from the October 1 figure. The decrease thus shown is 190,000,000 bushels. On this basis producers of wheat in this country, drawing their conclusions from figures of United States production and from what they themselves see, might conclude that prices would be higher this year than last. However, the United States crop viewed generally, even with reference to usual wheat production in this country alone, is not small. The following table affords data for comparisons of this nature:

TABLE 1.—*Production of wheat in United States and Canada, annual averages by five-year periods, 1900–1919, and crops of individual years, 1915–1920.*[1]

[Thousands of bushels.]

Crop year.	United States crop.	Canadian crop.	United States and Canadian combined.
1900–1904	626,195	80,592	706,787
1905–1909	692,824	121,748	814,572
1910–1914	728,225	196,599	924,824
1915–1919	832,240	261,121	1,093,361
1915	1,025,801	426,747	1,452,548
1916	636,318	262,781	899,099
1917	636,655	233,743	870,398
1918	921,438	189,075	1,110,513
1919	940,987	[2] 193,260	1,134,247
1920	[3] 750,648	[2] 293,361	1,044,009

[1] Data are from the Yearbooks of the United States Department of Agriculture except as noted. The 1919 Canada Yearbook, page 171, gives the quantity of the 1915 Canadian crop as 393,543,000 bushels instead of the 426,747,000 used in the table.

[2] Latest Canadian official figures at the date of this report. In January, 1921, a revised total of 263,189,000 bushels for 1920 was published.

[3] November 1 estimate. The December estimate, issued under date of December 14, shows a considerably larger quantity. The December Crop Reporter gives a final estimate of 787,128,000 bushels, an increase of 36,500,000 over the November estimate.

From the above table it will be seen that the 1920 crop, although considerably smaller than either of the two crops immediately preceding it, was considerably greater than the crops of 1916 and 1917 and, in comparison with five-year average figures, was exceeded only by the average for 1915 to 1919. The United States crop for 1915 was extraordinarily large, exceeding a billion bushels. The crops for 1918 and 1919 were also very large. The 1920 crop of the United States is, on the whole, an average crop rather than a poor crop. This statement makes allowance for some tendency to an increase from year to year.

Because of the nearness of Canada and the similarity of the competitive situation of the two countries with reference to the export market in Europe, and apart from any question as to the presence or absence of a tariff on wheat between the two countries, it is worth while to consider the figures for the United States and Canadian crops combined. Such figures are shown in the table above. The Canadian crop of 1920 was very much exceeded by the crop of the individual year 1915, but was not otherwise equaled by any annual or five-year average figure. The combined United States and Canadian crop for 1920 was slightly exceeded by the five-year average for 1915 to 1919, and was also exceeded in the individual years 1915, 1918, and 1919, but has otherwise not been exceeded in size. Taking into account the Canadian and the United States crops as in effect seeking a single market under like competitive conditions, it appears that the crop for 1920 was large rather than small, although exceeded by 90,000,000 bushels in 1919 and by 66,000,000 bushels in 1918. There is nothing in these figures to warrant the expectation of exceedingly high prices for the American wheat crop of 1920. In fact, unless the production for the world as a whole is short, the prices for the 1920 crop of wheat should be medium, rather than high, as compared with the general level of prices. Certain estimates of production in the world, as a whole, will be considered in the next section in connection with the figures for world exports and imports.

One feature of the situation as regards the course of prices in the United States since the beginning of the wheat harvest is worth special attention in this connection. Prices for wheat on the 1st of July were very considerably higher than in October, yet the estimate of the size of the United States wheat crop for the year 1920 made by the Department of Agriculture was considerably larger on July 1 than on October 1. Moreover, the carry-over from the 1919 crop was very large. Apart from the influence of factors other than the supply of United States wheat, and also apart from the influence of factors relating to general conditions and to demand rather than to supply, a higher price on October 1 than on July 1 would be logically expected. The estimate of the wheat crop for July 1 was 810,000,000 bushels as compared with a figure of 751,000,000 bushels on October 1, thus showing a loss of 59,000,000 bushels.

A point of interest to be considered in this connection is the high degree of uncertainty attaching to estimates of the spring wheat crop. Most of the conditions affecting the growth of winter wheat have established their effects fairly early in the spring, so that expectations with regard to the crop are, within limitations, more certain. The spring wheat crop may be more affected by weather conditions and other factors even after its growth is fairly well along. Especi-

ally in 1919 and 1920, large areas devoted to spring wheat were very badly affected by rust. Figures indicating the uncertainty of the estimate for spring wheat as compared with the estimate for winter wheat, after the winter has passed, are given in the following table:

TABLE 2.—*Production estimates and forecasts for wheat in 1920, with ratios to the June 1 estimates in 1920 and in prior years.*

QUANTITIES AND RATIOS FOR 1920.

	June.	July.	August.	September.	October.	November.	December.
Winter wheat:							
1,000 bushels	503,996	518,245	532,641	532,641	532,641	532,641	.....
Ratio	100.0	102.8	105.7	105.7	105.7	105.7	.....
Spring wheat:							
1,000 bushels	276,547	291,355	261,506	237,374	218,007	218,007	.....
Ratio	100.0	105.4	94.6	85.8	78.8	78.8	.....
Total:							
1,000 bushels	780,543	809,600	794,147	770,015	750,648	750,648	.....
Ratio	100.0	103.7	101.7	98.7	96.2	96.2	.....

RATIOS FOR PREVIOUS YEARS.

1912.							
Winter wheat	100.0	98.6	107.4	107.4	107.4	107.4	110.2
Spring wheat	100.0	102.3	109.4	113.2	124.7	124.7	124.7
Total	100.0	100.2	108.3	109.9	114.7	114.7	116.3
1913.							
Winter wheat	100.0	98.2	98.2	103.8	103.8	103.8	106.4
Spring wheat	100.0	86.5	92.5	96.4	96.3	96.3	95.2
Total	100.0	94.2	96.2	101.3	101.2	101.2	102.6
1914.							
Winter wheat	100.0	102.1	105.6	105.6	105.6	105.6	107.1
Spring wheat	100.0	104.5	90.1	84.5	82.7	82.7	78.6
Total	100.0	102.8	101.1	99.4	98.9	98.9	98.8
1915.							
Winter wheat	100.0	98.9	97.6	97.6	97.2	97.2	99.8
Spring wheat	100.0	107.9	112.3	117.9	126.2	126.2	128.6
Total	100.0	101.5	101.8	103.4	105.6	105.6	108.1
1916.							
Winter wheat	100.0	104.3	96.9	96.9	96.9	96.9	102.5
Spring wheat	100.0	109.7	81.1	63.6	62.2	62.2	63.4
Total	100.0	106.1	91.5	85.5	85.0	85.0	89.0
1917.							
Winter wheat	100.0	107.9	111.9	111.9	111.9	111.9	110.7
Spring wheat	100.0	97.6	83.5	88.5	85.7	85.7	79.1
Total	100.0	103.4	99.6	101.8	100.6	100.6	97.1
1918.							
Winter wheat	100.0	95.0	94.7	94.7	94.7	94.7	95.2
Spring wheat	100.0	97.0	93.7	99.7	105.6	105.6	104.3
Total	100.0	95.7	94.3	96.5	98.7	98.7	98.5
1919.							
Winter wheat	100.0	93.9	80.1	80.1	80.1	80.1	82.0
Spring wheat	100.0	93.9	65.6	60.6	59.2	59.2	61.0
Total	100.0	93.9	76.1	74.7	74.3	74.3	76.1

In general the winter wheat crop is better than the June 1 prediction, according to results experienced from 1912 to 1919, as well as in 1920. The range in the ratio of the final December 1 figure to the June 1 estimate of winter wheat is from 82 to 110.7. In the same period the corresponding ratios for spring wheat have ranged between 61 and 128.6.

Another factor directly bearing on the contrast between the so-called statistical position of wheat in its relation to prices on July 1 and on October 1 is the Canadian crop. Canadian wheat is also spring wheat. In June it appeared from official Canadian figures that the acreage of wheat in Canada was considerably reduced as compared with the previous year. The consequent expectation of a correspondingly smaller crop may well have been reinforced by the known damage to the American crop from rust occurring in July and August. But the Canadian crop was not similarly affected. Indeed, it is of particularly high quality and good test weight. In size, moreover, the Canadian crop is very large, having been surpassed only by the extraordinary production of Canadian wheat in 1915. The crop of 293,000,000 bushels, as estimated in the latest official figure, is 100,000,000 bushels larger than the crop of 1919 and 114,000,000 bushels larger than the crop of 1918. It is also larger than any 5-year average figure except that for 1915–1919 by nearly 100,000,000 bushels, and 50,000,000 bushels larger than the 1916 and 1917 crops.

Another factor in the situation which made the decline in the price of American wheat puzzling to some is the very large carry-over of wheat from last year. Such a large carry-over would normally have operated as a damper upon rising prices during the early period of the harvest of winter wheat in the Southwest. Furthermore, the winter wheat crop was good both in quantity and quality, and was being marketed before expectations with regard to the spring wheat crop had been reduced.

Altogether, the size of the crop produced in this country was not a factor such as to explain the decline in the price of wheat. The reasons for the decline in price are mainly to be found in supply conditions outside the United States, or in general conditions primarily affecting demand. The large Canadian crop was the most important and obvious supply factor of immediate effect on the situation, but it does not appear that the United States and Canadian crop combined would warrant the expectation of a decline in wheat prices of approximately $1 a bushel from the earliest date of marketing in the Southwest to the period of normally heaviest movement in the Northwest.

It is true that some private estimates for crops in particular sections show larger yields than the official United States Government crop estimates. But these private estimates are not accepted as of superior accuracy to the Government estimates and, indeed, the opinion of men in the grain trade is almost unanimous to the effect that the best figures are the Government figures. While a more certain determination of the prospective and actually harvested crop is desirable, it does not appear that practicable and

valuable suggestions of methods for improving the estimates or the final figures are easily obtained.

Another factor in the decline of wheat prices in the United States operative during the latter part of the summer has been the reported condition of the Argentine crop. This crop does not begin to move until December. It was reported as in very poor condition during the summer, but later reports indicated better weather conditions and the prospect of a large crop. The evidence of a good crop in India was strengthened during the summer. Reports of the Australian crop also were better. All of these developments tending to depress prices occurred around the early part of October. As a result of these conditions it appeared that Europe would be less dependent on American wheat than had been expected.

Another factor affecting the situation around the first of October was the very large production of corn. The extraordinary size and high quality of the corn crop furthermore had not been expected because of late planting and backward development, but the very remarkable fall weather during September and October, said to be unprecedented since 1871, caused the corn crop to develop and mature remarkably well. The relation of the price of corn to the price of wheat is discussed in section 7.

Doubts have been expressed by men in the grain trade as to the accuracy of the figures for the Canadian wheat crop. One grain trade man says that crop estimates depend too much on the growth of straw and a season that shows good growth conditions may lead to greater expectations as regards the harvest than the actual thrashing bears out. Another grain man thinks that the short growth period of the Canadian crop was a reason for doubting the reported large crop because such rapid growth means somewhat deficient yield. On the other hand, it is said that a good quality crop is always a large crop, and it is certain that Canadian wheat this year grades remarkably high and shows an excellent test weight.

Section 3. Exports.

The following table shows figures for world, United States, and combined United States and Canadian exports by years. The figures are from various sources and may not be exactly comparable with other data used, largely because they are on the basis of the year ending July 31. But this does not impair the value of the comparison.

TABLE 3.—*World's exports of wheat and United States wheat crop and exports—Yearly averages for five-year periods, ending July 31, 1905, 1910, 1915, and 1920, and individual years from 1916 to 1921.*[1]

Year ending July 31.	World's exports.[2]	United States crop.[3]	United States exports.[2]	United States exports.[2]	
				Per cent of world's exports.	Per cent of United States crop.
	Bushels.	*Bushels.*	*Bushels.*		
1901–1905	496,266,000	626,195,000	161,808,000	32.6	25.8
1906–1910	519,898,000	702,682,000	121,962,000	23.5	17.4
1911–1915	614,542,000	728,225,000	155,693,000	25.3	21.4
1916–1920	532,146,000	832,240,000	221,905,000	41.7	26.7
1916	602,867,000	1,025,801,000	242,041,000	40.1	23.6
1917	501,414,000	636,318,000	201,412,000	40.2	31.7
1918	376,524,000	636,655,000	135,310,000	35.9	21.3
1919	529,032,000	921,438,000	289,871,000	54.8	31.5
1920	650,893,000	940,987,000	240,892,000	37.0	25.6
1921		[4] 750,648,000			
		American crop.[5]	American exports.[5]		
1901–1905		700,990,000	190,656,000	38.4	27.2
1906–1910		826,511,000	173,803,000	33.4	21.0
1911–1915		919,235,000	253,873,000	41.3	27.6
1916–1920		1,086,720,000	348,346,000	65.5	32.1
1916		1,419,344,000	488,071,000	81.0	34.4
1917		899,099,000	346,451,000	69.1	38.5
1918		870,398,000	236,111,000	62.7	27.1
1919		1,110,513,000	364,136,000	68.8	32.8
1920		1,134,247,000	306,962,000	47.2	27.1
1921		[4] 1,044,009,000			

[1] Sources used as follows: World and American exports from Price Current Yearbook, 1920; United States crop from Statistical Abstract, 1919; American crop from report of Georgian Bay Canal Commission, 1918; United States exports from reports of Bureau of Foreign and Domestic Commerce.

[2] Including wheat equivalent of flour.

[3] Figures for the crop year; regardless of the fact that some of the wheat was harvested and marketed before July 31.

[4] See Table 1.

[5] United States and Canada.

The exportable surplus of the United States for 1920–21 is in effect somewhat increased by a large carry-over from the previous crop, but 150,000,000 to 200,000,000 bushels is a fair estimate of the quantity available. Canada can add approximately 200,000,000 bushels to the combined contribution of the two countries. Only in years of short crops in other countries does it appear that the world would require so large a contribution from the United States and Canada as nearly 400,000,000 bushels. In 1919–20 these two countries contributed 307,000,000. On the average in the past five years they have contributed 348,000,000 to a total of world exports of 532,000,000.

The export movement of wheat and flour from the United States has been very heavy since the beginning of the crop year 1920. The following tabular statement shows this movement compared with that for corresponding months in 1919[2]:

Month.	Wheat.	Flour.	Total (including wheat equivalent of flour).
1919.	*Bushels.*	*Barrels.*	*Bushels.*
July	5,834,154	1,731,017	13,623,731
August	12,940,581	1,637,668	20,310,087
September	17,089,923	1,764,283	25,029,197
October	13,686,675	1,620,492	20,978,889
Total	49,551,333	6,753,460	79,941,904
1920.			
July	23,837,541	2,403,822	34,654,740
August	27,693,982	1,106,707	32,674,164
September	30,770,796	938,530	34,994,181
October	37,560,845	1,614,611	44,826,595
Total	119,863,164	6,063,670	147,149,680

About 150,000,000 bushels, some portion of which was from the carry-over from the previous crop, had already left the United States by the end of October. Only half as much was exported in the same period last year. This situation tends to confirm the opinion of exporters that the balance of the exportable surplus not shipped had already been purchased for export before the end of October.

Bradstreet's statement of exports from United States and Canadian ports for the period extending from the week ending July 1 to the week ending November 4, inclusive, shows that the export movement from North America this year has been over 60 per cent heavier than for either 1919 or 1918. The totals for this period are as follows:

	Bushels.
1918	119,938,369
1919	117,993,086
1920	190,283,935

Further consideration of this point is made possible by the following table of distributive ratios, showing the proportion of the total exports during the crop years 1913–14 to 1919–20, sent abroad in each part of the crop year.

[2] Data are from the Monthly Summary of Foreign Commerce of the United States.

TABLE 4.—*Distribution of wheat-and-flour exports[1] by months within the crop years 1913–14 to 1919–20.*[2]

Months.	1913–14		1914–15		1915–16		1916–17	
	Per cent distribution.	Cumulative distributive per cent.	Per cent distribution.	Cumulative distributive per cent.	Per cent distribution.	Cumulative distributive per cent.	Per cent distribution.	Cumulative distributive per cent.
July	8.9	8.9	9.1	9.1	4.8	4.8	5.2	5.2
August	19.5	28.4	8.3	17.4	8.4	13.2	7.3	12.5
September	12.0	40.4	9.5	26.9	10.8	24.0	8.9	21.4
October	9.0	49.4	7.7	34.6	9.8	33.8	7.9	29.3
November	6.6	56.0	7.8	42.4	7.9	41.7	9.3	38.6
December	7.3	63.3	11.2	53.6	8.4	50.1	9.2	47.8
January	6.7	70.0	9.6	63.2	8.6	58.7	11.8	59.6
February	5.2	75.2	9.4	72.6	8.7	67.4	6.7	66.3
March	4.8	80.0	8.5	81.1	9.9	77.3	6.1	72.4
April	4.8	84.8	8.8	89.9	9.2	86.5	9.1	81.5
May	7.5	92.3	6.1	96.0	8.5	95.0	8.0	89.5
June	7.7	100.0	4.0	100.0	5.0	100.0	10.5	100.0
Total per cent	100.0		100.0		100.0		100.0	
Total bushels	145,590,000		332,465,000		243,117,000		203,574,000	

Months.	1917–18		1918–19		1919–20	
	Per cent distribution.	Cumulative distributive per cent.	Per cent distribution.	Cumulative distributive per cent.	Per cent distribution.	Cumulative distributive per cent.
July	6.4	6.4	3.9	3.9	6.2	6.2
August	7.4	13.8	6.8	10.7	9.2	15.4
September	5.4	19.2	9.9	20.6	11.4	26.8
October	8.7	27.9	8.5	29.1	9.6	36.4
November	8.0	35.9	7.6	36.7	10.6	47.0
December	11.5	47.4	11.7	48.4	7.0	54.0
January	9.4	56.8	7.7	56.1	5.6	59.6
February	7.9	64.7	5.5	61.6	4.8	64.4
March	9.2	73.9	7.1	68.7	7.7	72.1
April	9.3	83.2	10.8	79.5	6.2	78.3
May	8.2	91.4	9.1	88.6	11.8	90.1
June	8.6	100.0	11.4	100.0	9.9	100.0
Total per cent	100.0		100.0		100.0	
Total bushels	132,579,000		287,402,000		219,858,000	

[1] Domestic product, i. e., not including reexports.
[2] Based upon figures compiled from the reports of the Bureau of Foreign and Domestic Commerce.

The proportion of the total exported in the four months ending October 31 during the seven years covered has ranged between 49 per cent in 1913–14 and 28 per cent in 1917–18. The United States crop in 1913 was large, the total being 763,380,000 bushels, exceeding any previous record. But that of 1914 was still larger, being 891,017,000 bushels, and this was followed by the maximum record crop of 1,025,801,000 bushels in 1915. Therefore, although the minimum rate of exportation in the summer of 1917 seems to be explicable by the crop, the maximum rate is only in part thus accounted for. Doubtless war and shipping conditions have had much to do with the variation of the ratios shown in the table, but details of this nature are not of especial importance for the present inquiry. The point of

greatest significance is that the four months' figure for 1920 appears to equal about 75 per cent of the country's exportable surplus, so that the rate of the movement is nearly twice that of any previous year.

During and since the war, European demand for wheat has centered upon the surpluses available from the crops of the United States and Canada. The relations established between the Allies and the United States, as well as the status of ocean transportation, favored the movement of breadstuffs from the United States. The minimum price of wheat was maintained by a Government guaranty in the United States, and by similar price control on the selling side in Europe. Europe bought its supplies through Government commissions and the United States sold through the United States Grain Corporation for fully a year after the armistice. Under these conditions of buying and selling, with a minimum price guaranteed to the grower, the United States participated to an unprecedented extent in the world's export movement. During the 5-year period ending July 31, 1920, over 40 per cent of the world's exports of wheat and flour came from the United States; and for the year ending July 31, 1919, the participation of the United States in this movement amounted to well over 50 per cent. In July, 1918, the Grain Corporation entered into contracts with the Governments of the Allied and associated powers by the terms of which they agreed to take all the wheat and flour the grain corporation could supply up to 200,000,000 bushels.[3] Under this arrangement the domestic price of wheat was sustained at a level of a few cents above the guaranty from July, 1918, to February, 1919.

The 1919 crop did not come up to earlier estimates either as to quantity or quality; and, with all war restrictions on domestic purchasing removed, there was a more insistent demand for home consumption and a relative decline in the export movement. The percentage of this crop exported—37 per cent for year ending July 31, 1920—was less than the average proportion exported over the five-year period 1916–1920, which was about 40 per cent. Because of the inadequacy of the crop of hard spring wheat, and because of domestic transportation difficulties, the market price, which had exceeded $2.80 for No. 1 northern spring wheat at Chicago in May, 1919, and had ranged from about $2.35 to $2.60 from June to September, rose rapidly in October to above $3.20 in December. A sharp decline in January and February, 1920, was followed by a rise in March, April, and May, until the price exceeded $3.30. The year 1919–20 was marked by an export demand which absorbed the shipments as rapidly as they could be moved to the seaboard. Such movement to the seaboard, however, was to a considerable degree obstructed by insufficient railroad equipment.

Effective December 15, 1919, the embargo on exports and imports of wheat and flour by private agencies, which had been in force since the summer of 1917, was removed. This opened the way for imports of wheat and flour and marked the close of the positive direction of the export movement by a Government agency. The total purchases of the 1919–20 crop made by the Grain Corporation aggregated 138,313,637 bushels. Stocks were not accumulated as in 1918–19, however, and at no time in 1919–20 were the wheat hold-

[3] Eldred in Quarterly Journal of Economics, Aug., 1920, p. 705.

ings of the Grain Corporation much over 80,000,000 bushels, as against a maximum of 145,000,000 bushels in the preceding season.[4] A decision to resell part of these stocks after the price began to advance in November, 1919, reduced the holdings in two months to about 50,000,000 bushels.

As the Grain Corporation began to release its control, the foreign governmental commissions—especially the British Royal Commission—instituted aggressive buying campaigns in the American market, and accumulated large stocks at high prices. This concentrated buying by Great Britain, France, Italy, Belgium, Spain, and other foreign countries was so spasmodic as to result in an uncertain and highly fluctuating market. It is noteworthy that the sharp decline in January and February of 1920 was coincident with the reported withdrawal of the British commission from the market for 30 days. However, prices ranged at relatively high levels during May, June, and July, 1920.

This concentrated buying for export was reflected in the exports of wheat alone during the first quarter of the 1920–21 crop year (July, August, and September) as already shown. The total wheat-and-flour export movement during this quarter exceeded the movement during the similar period for 1919 by about 74 per cent, an increase of 43,360,070 bushels. (See the tabular statement on p. 18.)

According to a recent Broomhall report, exports of wheat from August 1 relating to a period of about four months[5] for various surplus countries in the past three years have been as follows:

Country.	1918–19	1919–20	1920–21
American[1]	77,851,000	126,262,000	146,288,000
Indian	4,256,000	.....	112,000
Argentina	31,380,000	54,172,000	10,357,000
Australia	12,525,000	37,441,000	6,676,000
Others	1,272,000	1,156,000	.....
Total	127,284,000	219,031,000	163,433,000
Season	529,032,000	650,893,000	.....

[1] United States and Canada.

The very large exports from the United States since July 30 are evidently to a large degree compensatory for exports from other countries in the previous year, especially from Argentina and Australia. But it is said that the Argentine surplus for this calendar year (Argentina's crop year) was absorbed earlier in the year than usual. Great Britain is reported to possess much larger stocks than a year ago. Accordingly, in view of the above figures, the European demand for United States wheat since August 1 does not appear so extraordinary as an examination of United States exports this year in comparison with previous years suggests.

After July 15, 1920, when trading in wheat futures was resumed, the export market was subjected to several influences of an unfavorable nature.

(1) The British Royal Commission, which had been the largest single factor in the world's wheat export market, ceased buying

[4] Eldred, p. 714.
[5] From the Price Current Grain Reporter for Nov. 24, p. 9.

altogether from exporters in the United States after July 29, and has remained out of the market since that time, unless it has begun buying again quite recently. There was also the latent possibility of a similar withdrawal by other foreign commissions. There was no longer a governmental agency in the United States to accumulate wheat stocks in the interim; the wheat price guaranty was a thing of the past; and there was a futures market in wheat which furnished the basis for export prices and which was sensitive to any unfavorable news.

(2) News of the European wheat crops and of the available world surpluses for export have lately been bearish in character. It was estimated on October 3, when actual export shipments from the United States since July 1 had exceeded 100,000,000 bushels, or at the rate of 1,500,000 bushels per day, that unshipped sales were 40,000,000, and that the entire surplus of the United States would be exhausted before November 30. While these statements indicated an unusual export demand, it was reported on October 10, by Broomhall cables, that total European crops were 20,000,000 bushels in excess of last year; and that total importers' requirements in the world were 560,000,000 bushels, as against exporters' surpluses of 600,000,000. On the assumption that Europe had overbought in the United States market, there was good ground for reasoning that export demand was about over, and that it could always be offset by the Canadian surplus. Reports of rains in Argentina early in October indicated that the crop in that country would be larger and better than had been expected. On October 28 Russell's News (New York) announced that the new crop in Australia had been estimated as high as 144,000,000 bushels, giving about 100,000,000 bushels for export from this crop, and that exports had begun to move rapidly from Australia when it was discovered that the new crop in Argentina would be larger than anticipated. The realization that the American corn crop was larger and of better quality than any in our history had a depressing effect upon the export market.

(3) The high price of the American dollar influenced Europe to arrange credits elsewhere when possible. With exchange at par the American wheat grower would get not much less than $1 more per bushel out of the price Europe has been paying. International credit relations are largely responsible for this situation.

To say that the price of American wheat is normally fixed by the export demand is substantially true in general, and has been especially true this season.

Section 4. Character of foreign buying.

The most important foreign buyer of American wheat is the British Royal Commission. Buying for other foreign countries is also to a great extent handled by governmental agencies. The British Royal Commission, however, has occasion to buy more wheat than all the other European countries combined. This situation means highly concentrated buying and involves giving the principal buyer considerable power over the price. Concentrated buying puts the sellers at some disadvantage, and even if such concentrated buying is not used to force down prices, or so handled as to constitute manipulation, it is sure to be blamed for unsatisfactory conditions.

The demand of the British Royal Commission for American wheat was very heavy during the early period of the crop movement of 1920. Its representatives are said to have bought hastily and even recklessly, taking a large part of the carry-over and a good deal of the winter wheat crop as fast as it moved. The very large Southwestern winter wheat crop has moved to the Gulf for export in large volume. The red winter wheat section, where the crop was not so good, has been pretty largely stripped of the product as fast as farmers were willing to market it, and comparatively little of it is said to have gone into American hands. This particular wheat is used by cracker bakers, and some predict a shortage of this kind, even if the supply of wheat in general proves abundant within the present crop year.

After having bought so heavily during the first weeks of the crop year the British Royal Commission on July 29 suddenly ceased buying and withdrew from the market. England was then apparently "overbought." Since the domestic demand for wheat, owing to the situation of the millers and the attitude of the buying public, was smaller than usual, the withdrawal of the largest foreign buyer naturally caused a sharp slump in prices. Other European purchasers, however, have continued to buy with a fair degree of steadiness so that the export demand has continued good into the fall. However, there has been some tendency to imitate the British Royal Commission on the part of other Government commissions, so that there has not been a normal degree of buying based on usual mercantile considerations, which would produce a comparatively even distribution in time.

Whatever may have influenced the British Royal Commission to buy in large quantities early in the year, there can be little doubt that the high price reached by wheat early in the season was due to this heavy buying from abroad. British reserves were doubtless light at the period when the heavy buying started. It is said that now the British Government has its stocks built up to supply its needs until January 1, so that it will not be dependent on the American market during the remainder of the year unless something untoward happens to the Argentine crop and other outside sources of supply. The British, and of course to a greater extent the Continental European nations, are at present receiving supplies from their own crops.

The fact that English buyers have been so irregular and inconsistent in their purchasing policy is the subject of complaint, or unfavorable comment, from all sections and all classes of men in the grain trade. In some cases it is said that this policy has not been adopted with reference to manipulating prices; in other cases there is a feeling that there has been manipulation. Another interpretation is that the effect of the policy may have been manipulative, although there was no such intention, because the policy was controlled by other than ordinary mercantile considerations. It is suggested by men in the grain trade almost unanimously that such concentrated buying is an undesirable condition which should not be allowed to continue any longer than is necessary, or else should be met by a concentrated selling organization under Government auspices on this side. Although the British Commission has given

notice that its requirements for the balance of the calendar year have been met, not all grain trade men are ready to accept this statement, some believing that buying is still being done quietly by the British Commission.

The specific complaint as regards European buying, and especially as regards British buying, has been its irregularity. It is sometimes alleged that foreign Government commissions have concertedly withdrawn from the market, or at least given notice of withdrawal, although possibly still buying quietly at the lower prices that their apparent withdrawal would naturally produce. If such withdrawal occurs at a time when there is an especially heavy movement of surplus American wheat, it naturally helps the foreigner to get his supplies cheaply.

On the whole, however, it does not appear that any depressing effect of the indicated character of the foreign demand upon prices has been of benefit to the buyers. Prices have been lower since buying fell off. A more even distribution of its buying would very probably have given the British Royal Commission its supplies at a lower average price. The high level of early summer prices was doubtless due to inflation by such purchasing, and therefore the drop in prices has been more sharp than it should otherwise be expected to be. It is suggested by some that the Canadian wheat movement into the United States has been engineered by the British buyers with reference to its having a depressing effect on American prices. The movement, however, can easily be explained by entirely natural causes. It is true, however, that the British Government has not bought Canadian wheat. This also is easily explained by the fact that they made their purchases before the Canadian crop began to move. Certainly the fact that England has been out of the market recently has had a depressing effect upon American prices.

In addition to possible depression of American prices by the character of European buying, the great fluctuations in prices are attributed to the irregularity of such buying. Abrupt entry and withdrawal from the market inevitably means such fluctuations. This itself, however, may be due merely to the concentrated character of the buying agency, instead of being intentional, since dealings by a large number of ordinary mercantile houses would inevitably mean a steadier stream of demand contributed to by various factors, individually small as regards their orders, but rather evenly spread in time as regards the character of the purchasing. The general average of prices may have been about the same as it would be without such concentrated buying, but fluctuations in prices are bound to be greater than where the buying is scattered and its incidence more regular.

Doubtless one reason why the British Royal Commission purchased its supplies so hastily was because of an unsatisfactory experience in the previous year with deliveries of wheat. The transportation situation in this country in the winter of 1919–20 was such that supplies purchased and paid for were delayed weeks and months before delivery could be effected. Rather than have the same trouble this year the British buyers are said to have bought in car lots on track in the country, instead of relying on contracts for forward delivery with elevators or other merchandisers.

A factor in the withdrawal of the British from the market may very well have been the downward tendency of rates of foreign exchange which was such that the cost of American wheat at a given price in dollars would be considerably greater for the British purchaser on October 1, 1920, than on July 1, 1920. The evidence of this situation is contained in the following table showing sterling exchange rates from the beginning of 1920 down to date. The decline from $3.96¼ (mean for July 3) to $3.49⅜ (Oct. 2) means a loss of 12 per cent, which is equivalent to 35 cents a bushel in buying $3 wheat.

TABLE 5.—*Rate of foreign exchange as between American and British money (sterling cables) April to October, 1920.*

Date, Saturday—	High.	Low.	Mean.
Apr. 3	$3.98	$3.85	$3.91½
10	4.07½	3.97	4.02½
17	3.98	3.93	3.95½
24	3.96¾	3.87	3.91¾
May 1	3.89½	3.75½	3.82⅜
8	3.88	3.83½	3.85⅝
15	3.85⅝	3.81⅜	3.83½
22	3.86½	3.81⅜	3.84⅛
29	3.93	3.84½	3.88¼
June 5	3.96¾	3.90½	3.93½
12	3.95½	3.89½	3.92½
19	3.99½	3.93½	3.96⅛
26	3.99⅛	3.96⅛	3.98⅛
July 3	3.97½	3.95	3.96¼
10	3.95½	3.94½	3.95
17	3.95⅜	3.88⅜	3.91⅞
24	3.85½	3.76½	3.80½
31	3.79⅜	3.71⅜	3.75⅞
Aug. 7	3.72	3.56	3.64
14	3.68½	3.61	3.64⅜
21	3.65½	3.58½	3.61⅛
28	3.60	3.54½	3.57⅜
Sept. 4	3.57⅞	3.55⅜	3.56⅜
11	3.54⅜	3.50	3.52⅜
18	3.54⅜	3.45½	3.50
25	3.54½	3.46⅛	3.50⅛
Oct. 2	3.51⅜	3.47	3.49⅜
9	3.52	3.48⅜	3.50⅛
16	3.50⅜	3.46⅜	3.48⅛
23	3.46½	3.41	3.43⅞
30	3.49⅛	3.45⅜	3.47⅛

It should be noted that a low exchange rate is not in itself so much of a check to exports and imports as it is often supposed to be, since the trade of a particular country may be adjusted to a low valuation of its money. A change in the exchange rate, however, does not carry with it an immediate adjustment to the new valuation of the national currency and therefore adds to or decreases the cost of foreign imports to the country whose exchange rate is thus fluctuating. The United States is still exporting largely to foreign countries, notwithstanding the unfavorable exchange situation for those countries, because they have, in many cases or to a large degree, adjusted their business generally to the low valuation of their currency.

With regard to the international movement of wheat, this commodity is so fundamental to foreign countries and governments that

an unfavorable exchange rate or a high price will not prevent their buying necessary supplies. In Great Britain and other European countries the government is still subsidizing bread by selling wheat to millers at less than the cost to the government itself. Credit conditions also will not greatly affect the buying of wheat by European countries, as compared with the buying of nonessentials.

Partly because purchasing is in the hands of governments, very little flour is going abroad at present, the governments preferring to purchase the raw grain, largely regardless of present relative prices, in order to favor the milling industry in their own countries and retain for themselves the by-product mill feeds.

Section 5. Canadian wheat.

Figures for imports of Canadian wheat and flour into the United States, exclusive of transit shipments in bond, are given for a series of years by months in the following table:

TABLE 6.—*Wheat and flour imported from Canada, by months, 1913–1920.*

A.—WHEAT (BUSHELS).

Month.	1913	1914	1915	1916	1917	1918	1919	1920
January	109,079	884,798	14,332	385,566	805,745	7,339,130	39,747	753,324
February	45,159	175,099	46,998	218,440	1,337,376	27,515	42,522	534,635
March	46,468	234,543	35,033	193,739	2,993,855	218,957	44,111	526,752
April	36,261	13,026	13,472	258,408	3,125,620	71,429	281,812	50,225
May	6,375	73,184	19,199	503,908	5,459,374	958,584	1,474,370	410,155
June	20,977	43,115	21,326	242,713	3,574,544	761,424	1,893,992	124,137
July	4,242	34,902	59,850	128,985	1,954,025	508,044	118,256	36,798
August	37	68,693	440,843	394,526	1,398,749	24,400	28,697	170,274
September	397	7,039	348,405	943,322	840,981	27,573	143,298	1,806,865
October	231,463	3,006	1,754,797	1,507,550	1,712,198	55,662	564,756	9,784,307
November	104,104	101,644	796,001	2,606,360	5,674,530	176,423	404,650	[1] 4,984,189
December	127,343	5,219	470,413	838,034	3,732,583	168,968	309,064	.....
Total	731,905	1,644,268	4,020,669	8,221,551	32,609,580	10,338,109	5,345,275	.....

B.—FLOUR (BARRELS).

January	8,336	8,597	5,267	26,713	8,225	686	47	27,472
February	3,301	5,502	5,462	28,586	2,758	21,461	63	19,914
March	6,611	8,070	4,068	23,668	7,875	12,628	547	11,524
April	5,301	6,095	2,686	12,113	6,051	25,936	420	21,478
May	2,887	4,372	5,679	15,277	31,553	4,619	2,432	20,940
June	9,083	11,612	5,459	9,495	48,501	827	1,740	39,283
July	6,208	7,603	4,005	10,513	42,508	11,377	1,740	26,326
August	4,100	6,187	33,320	20,532	64,414	2,720	705	17,861
September	8,968	8,700	23,406	10,248	108,288	10,131	451	14,215
October	8,420	6,385	79,891	14,516	83,973	386	801	162,978
November	10,290	3,368	44,155	9,557	74,292	5	1,051	[1] 91,438
December	6,677	1,630	38,948	4,097	15,543	32	3,383	.....
Total	80,182	78,121	252,346	185,315	493,981	90,808	13,380	.....

[1] Nov. 1 to 15 only. Revised figures made available since this report was submitted to the President show for October 9,800,438 bushels of wheat and 163,327 barrels of flour, and for the entire month of November, 9,522,578 bushels and 201,666 barrels, respectively.

It should be noted that the figures for several years prior to August 31, 1920, have not the ordinary significance of such data for comparative purposes, because they were practically operations on government account and related to the direct substitution of Canadian wheat for wheat exported, instead of being due to ordinary commercial conditions. Prior to September 1, 1920, exports of Canadian wheat were controlled by the Canadian Wheat Board, and for a

large part of the time prior to July 1, 1920, the United States Grain Corporation was operating, and wheat was not allowed to be imported in the ordinary way by private merchants because of the Government price guaranty.

Figures of Canadian imports prior to the establishment of the Food Administration in the fall of 1917, reflected normal commercial movement, except so far as war measures with regard to the control of wheat had already been adopted, and with such qualification as may be necessary because of the fact that prior to April 16, 1917, there was a duty on Canadian wheat of 10 cents a bushel and on flour of 45 cents a barrel coming into United States.

The first factor to be considered in the Canadian situation is the size of the crop. The crop, as has already been noted, is 100,000,000 bushels larger in 1920 than it was in 1919. On the basis of the crop report figure of 293,000,000 bushels it has an exportable surplus this year of at least 200,000,000 bushels. There are various reasons why this surplus available for export has moved so largely to the United States instead of going to Europe. Exports of Canadian wheat destined for United States consumption were 10,000,000 bushels in the month of October, 1920. The figure for September was 1,800,000 bushels. Figures for months prior to September are not properly comparable, for the reasons already mentioned, such as Government control. For example, the figure of 7,300,000 bushels for January, 1918, may be attributed to the substitution of Canadian wheat for United States wheat that was in more available position for export. Prior to 1917 movements of Canadian wheat or flour into the United States were not large.

As regards the route and destination of Canadian shipments into this country, most of the grain has moved by lake. Statistics furnished by the Winnipeg Grain Exchange show the following lake movements for the period of September 1 to October 22:

To Canadian ports:		
Port McNicoll	1,196,000	
Tiffin	1,112,000	
Midland	302,000	
Goderich	1,573,000	
Port Colborne	3,507,000	
Montreal	352,000	
		8,042,000
To United States ports:		
Duluth	2,121,000	
Chicago	310,000	
Detroit	155,000	
Buffalo	11,879,000	
Sandusky	58,000	
Toledo	777,000	
Milwaukee	115,000	
		15,415,000
Total bushels		23,457,000

These figures will not necessarily check with the American figures of imports for the reason that they are dated differently, in one case according to clearance in Canada and in the other according to arrival at destination, and also because they include wheat in transit for export. It will be noted that the movement to American ports was almost twice as large as to Canadian ports. Of the movement to

American ports, practically all was destined for domestic consumption, except some portion of the shipments to Buffalo. The large movement across Lake Superior to Duluth was wheat destined chiefly for Minneapolis mills. Some Canadian wheat also reached Duluth by rail, though not a large quantity. A subdivision of the Buffalo figure between export wheat and wheat for domestic consumption can not be made with data at hand, but it is known that certain large mills at Buffalo have lately been running almost wholly on Canadian wheat.

The primary inducement to the importer of Canadian wheat is, of course, the price. At the beginning of the movement prices in Canada were lower, taking into account the exchange value of the Canadian dollar. The heavy purchases and importations have tended to narrow or even put an end to the price difference. The difference would be a matter of a few cents only in any case, under present circumstances, with no tariff on importations, but it is said that after the movement started, millers continued buying for the sake of getting the quality represented by the Canadian wheat. A comparison derived from the records of a Minneapolis mill and made on the basis of No. 1 dark northern shows during September a 5 to 10 cent lower price for Canadian than for our own Northwestern spring wheat. This difference declined during the first half of October. During the last half the Canadian wheat showed a price at Minneapolis somewhat above the Northwestern wheat, on a basis as nearly as possible the same for the two. Another miller states that Canadian wheat was at first 10 cents a bushel lower than American wheat, but is now on a parity with the latter. As a result of these changes in the spread between Canadian and American prices, the largest miller in Minneapolis stopped buying Canadian wheat. This miller states that from September 1 to October 6 Canadian wheat was cheaper per bushel and besides showed a better yield of flour.

It is said by exporters that the Canadian prices of grains have followed American prices in the decline throughout the season. This is true of oats and barley, as well as of wheat. It is true at any rate that the Canadian grain trade expects Chicago prices to control, and Canadian dealers doubtless follow Chicago quotations to a great extent. A good deal of Canadian hedging is done in Chicago and other American futures markets, but especially in Chicago. This situation would seem to mean that Chicago set the price, whether Canadian dealers simply took their cue from Chicago, or themselves in some instances by their hedges furnished the initial impulse to bring about a decline or increase of the price.

An important factor in the importation of Canadian wheat has been the rate of exchange as between the American and Canadian dollar. In the above price comparisons allowance has been made for this factor. Since the week of June 28 to July 3 the discount on the Canadian dollar has been as follows:[6]

	Cents.
June 28 to July 3	12.28
July 5 to July 10	12.19
July 12 to July 17	12.01
July 19 to July 24	11.53

[6] Figures compiled from quotations in the New York Times.

	Cents.
July 26 to July 31	11.54
August 2 to August 7	11.30
August 9 to August 14	11.76
August 16 to August 21	11.86
August 23 to August 28	11.29
August 30 to September 4	9.44
September 6 to September 11	9.57
September 13 to September 18	10.00
September 20 to September 25	9.94
September 27 to October 2	9.64
October 4 to October 9	8.87
October 11 to October 16	9.27
October 18 to October 23	9.45

It will be noted that the discount on the Canadian dollar was larger during July and August than during September and October, and the figure was smallest during the first week in October. In other words, the discount dropped during the period of the heaviest purchases of Canadian grain. The rate of exchange has tended to be more favorable to Canada in recent weeks, doubtless chiefly because of the payment for large purchases of wheat for shipment to the United States.

The exchange rate has doubtless been a factor in the Canadian movement because it has seemed to the Canadian producer that he was getting a higher price for his grain than it seemed to the American farmer that he was getting, and therefore the Canadian farmer was perhaps more willing promptly to part with his crop. The discount on the Canadian dollar, however, should mean that Europe would have the same advantage in purchasing from Canada (as compared with her situation in purchasing from the United States) that this country has, but heavy European purchases came at a time before the Canadian crop was ready for shipment, and were therefore made chiefly in the Southwest, where there was the grain to be had.

United States official figures for trade with Canada show a large and increasing excess of imports into Canada, therefore a balance technically "in favor" of the United States. The values referred to, as compiled by the United States Bureau of Foreign and Domestic Commerce, have been as follows:

Calendar year.	Imports from Canada into the United States.	Exports from the United States into Canada.	Excess of exports.
1919	$494,696,548	$734,244,319	$239,547,771
1920:			
January–June	261,412,210	479,862,003	218,449,793
July	42,720,420	98,484,423	55,764,003
August	59,503,588	89,244,244	29,740,656
September	53,974,337	87,675,423	33,701,086

The excess of exports from the United States was 40 per cent greater in the first 9 months of 1920 than the similar figure for the preceding 12 months. The rate of exchange on Canadian money is in large part a result of this trade situation. If the balance should be forced still further against Canada by preventing the importation of Canadian wheat, doubtless the rate of exchange would tend further downward and imports of American commodities into Canada would be checked.

Statements have been made that purchases of Canadian wheat had reference to manipulating American prices. According to the best available information, however, the purchases have been made by millers and not by interests largely concerned with speculation. Very little Canadian wheat has gone to Chicago, and most of that appears to have been consigned to millers. The large shipments to Buffalo and Minneapolis were doubtless primarily due to the importance of these points as milling centers, though Buffalo receives considerable wheat in transit for export. Exporters say that recently they have been able to buy and ship American wheat at considerably less cost per bushel than Canadian wheat.

An important factor in the purchase of Canadian wheat by millers has been its quality. Canadian wheat is of especially good quality this year, and is needed to tone up the product obtainable from the Northwestern wheat of this year's crop. This is true of the wheat raised in Minnesota and the eastern part of the Dakotas. Wheat from Montana and from the western part of the Dakotas is of high quality. The crop in the eastern section of the spring wheat district was much affected by rust, and is light in test weight per bushel. The crop is better than that of 1919, i. e., heavier on the average, but there is a considerably larger quantity of light weight wheat than there was in 1917 or 1918. The gluten content varies greatly, but is not on the whole superior to that for the 1919 crop. The color is superior to that of 1919. On the whole, therefore, the crop is not extremely low in quality, but is not among the better crops, and is perhaps lower than the average for spring wheat. The Canadian crop, on the other hand, is extraordinarily good in quality. Most of it is testing No. 1 dark northern, and weighs 62 pounds per measured bushel. As illustrating the high average run of the crop, one grain trade man refers to receipts of 50 cars which graded all No. 1 dark northern except one. In other words, the quality of the Canadian crop is almost unprecedentedly good. Therefore it is evident that the quality of Canadian wheat has been a factor alongside of price in causing importations. It is doubtless true that in the United States millers could find something somewhere that would serve their purpose and enable them to get a blend which would satisfy their requirements even if the Canadian crop were not available. But with such high quality wheat at hand the problem of obtaining wheats for a proper blend has been very much simplified.

Because of the high quality of Canadian wheat, the terminal elevators will doubtless find it valuable for mixing, especially with the local grades of wheat. The reason why shippers have not been able recently to buy Canadian wheat for export has apparently been the fact that millers will pay more attention to the quality and therefore are stronger competitors for the Canadian wheat.

Another reason why millers at Minneapolis are taking so much Canadian wheat, even at the cost of a back haul, is the tendency of American producers, especially in the Northwest, to withhold their crop from the market. This may be especially true of the growers who have the better quality of spring wheat, i. e., from the western part of the spring wheat section such as Montana. The Minneapolis mills have not been able to get supplies of northwestern spring wheat from its growers at prevailing market prices, and the Canadian wheat has taken its place. Duluth has shipped out very little spring

wheat, although it has handled a large quantity of durum. The millers have taken Canadian wheat as a substitute for our own spring wheat. With a light crop of spring wheat in the Northwest, supposing an ordinarily active demand, the northwestern millers would have been compelled to go South into the winter wheat territory for supplies or obtain them from Canada.

The Canadian farmer is in need of money and therefore disposed to sell promptly. Moreover, traffic conditions are such in Canada that if the wheat is not moved rapidly the slowing down of transportation would make it impossible to move much of it until spring. Therefore there is haste to get the wheat to Fort William and Port Arthur before the close of navigation. Credit conditions are said to be much worse in Canada than they are in United States. Much quicker returns can be obtained from wheat sold to the United States than in the case of wheat sold to Europe. Altogether, the Canadian farmers have shown an anxiety to sell quickly, which is the opposite of the attitude of American farmers in the Northwest. This appears in the figures of visible supply. Bradstreet's reports visible supply of wheat in Canada October 30, 1920, as 37,112,000 bushels, as compared with 32,791,000 bushels on November 1, 1919, whereas its figure for the visible supply of wheat in the United States on October 30, 1920, was 38,608,000 bushels as compared with 104,508,000 on November 1, 1919. The fact that the British Royal Commission has been out of the market lately and has not bought any Canadian wheat favors the flow to the United States.

A factor, although possibly not of major importance, in the extent to which Northwestern millers have taken Canadian wheat, is the increased cost of drawing wheat from the Southwest owing to the removal of milling-in-transit rates in May and to the increase of freight rates in August. The crop in the Southwestern wheat district is of good quality. Northwestern millers bought a considerable quantity of turkey red and hard winter wheat in July and August, but they have lately found the Canadian wheat available for the same blending purposes at less cost. In the Southwest they were subject to sharp competition from European buyers. In general, the increase in freight rates appears to have altered the direction of movement of the United States wheat crop, at least for the time being. The Gulf ports pull more strongly on the Southwestern wheat section than formerly, especially as compared with Chicago. On the other hand, it is possible that Chicago can not now compete with Minneapolis so successfully as regards territory formerly in dispute between the two markets, for example, in South Dakota. But the quality of the South Dakota crop is also a factor. The Minneapolis millers can use it by blending it with stronger wheats where it would not sell to good advantage unmixed.

With regard to the question of the effect of Canadian imports upon American prices, it is doubtless true that, if the Canadian supply had not been available prices would have been maintained for a while at a higher level. In this sense it may be said that importation of Canadian wheat is a large contributing cause to the present situation as regards the decline in wheat prices.

However, in measuring the effect of Canadian wheat and in considering the extent of substitution, it is to be noted that the

entire quantity of Canadian wheat imported is equal to only a small portion of the decrease in the output of American flour mills in the past few months. It is estimated that American mills show a shrinkage in the rate of production of flour equivalent to 43,000,000 bushels of wheat between July 1 and October 21. This situation suggests that conditions of demand have had more to do with the decline in prices than conditions of supply, including the importation of Canadian wheat.

The table of Canadian imports above shows the quantity of wheat imported from Canada in the form of flour, as well as the quantity in the form of wheat. It is stated that Canadian flour has been an important factor recently in the markets of New England and New York. It appears that there has been a pronounced tendency to an increase in the quantity of flour imported as well as of wheat. The maximum imports of flour in any one month prior to October, 1920—i. e., for the month of September, in 1917—have been equivalent to about 500,000 bushels of wheat. This figure was exceeded in October, 1920, and evidently also in November, 1920.

Section 6. Changing general price levels.

Recent changes in the price of wheat can not be adequately considered without reference to general price tendencies affecting all commodities more or less. The date of the inevitable reaction from price levels established by war and after war conditions could only be fixed after the event.

The degree to which the general readjustment in price levels has affected various commodities since the close of the war is indicated by the following table of price index numbers compiled by the United States Bureau of Labor Statistics, in which prices for October, 1918, substantially the date of the armistice, are made the basis of comparison:

TABLE 7.—*Index numbers of wholesale prices, by groups of commodities, October, 1918, high and low months of 1919 and 1920 to date, and September and October, 1920.*

[In this presentation the index numbers computed by the Bureau of Labor Statistics have been shifted to the October, 1918, base by direct division.]

Group.	October, 1918.	High period.		Low period.		September, 1920.	October, 1920.
		Month.	Index.	Month.	Index.		
Farm products	100.0	July, 1919	109.8	Oct., 1920	81.3	93.8	81.3
Food, etc.	100.0	May, 1920	142.3	Feb., 1919	97.5	110.9	101.5
Cloths and clothing	100.0	Feb., 1920	138.5	Mar., 1919	84.0	108.2	100.0
Fuel and lighting materials	100.0	Sept., 1920	170.1	Apr., 1919	100.0	170.1	168.9
Metals and metal products	100.0	Apr., 1920	104.3	Apr., 1919	81.3	102.7	98.4
Building materials	100.0	Apr., 1920	215.8	Jan., 1919	101.9	201.3	198.1
Chemicals and drugs	100.0	Sept., 1920	101.8	July, 1919	78.4	101.8	99.1
House-furnishing goods	100.0	Sept., 1920	164.2	Apr., 1919	96.0	164.2	164.2
Miscellaneous	100.0	June, 1920	126.0	Feb., 1919	106.1	121.9	116.8
All commodities	100.0	May, 1920	133.3	Feb., 1919	96.6	118.6	110.3

It will be noted that, as indicated by the above table, farm products show a net decline in price for September, 1920, and also for October, 1920, as compared with October, 1918, and that this is the only group showing such a result. Prices of farm products in September, 1920,

were 93.8 per cent of what they were in October, 1918, while wholesale prices for all commodities were 118.6 per cent of what they were in October, 1918. The corresponding October, 1920, indexes are, respectively, 81.3 and 110.3.

An examination of individual commodities shows that many of the most important commodities, especially raw materials of manufacture, to which farm products are most nearly comparable, have shown more marked declines in the past few months than wheat. Of the list of 32 commodities selected as representative of raw materials, or as comparable with our farm products with reference to their importance, and not with reference to whether they show an increase or decrease in price, 13 show a price in October, 1920, above the October, 1918, figure, and 19 show decreases. In September, 1920, 15 of the 32 showed decreases and 17 increases. In September wheat was in the class showing increases over the period of the armistice, but in October showed decreases, index numbers for the five October quotations ranging between 95 and 98.9.

The list of commodities and their prices and index numbers for October, 1918, September and October, 1920, and for the high month and the low month intervening, as compiled by the United States Bureau of Labor Statistics, is shown in Table 8. All the farm products used by the Bureau of Labor Statistics are included, and also the 32 other commodities previously described.

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TABLE 8.—*Average wholesale prices of important commodities, October, 1918, high and low months of 1919 and 1920 to date, September and October, 1920.*

Commodity and market.	Average price in—										
	October, 1918.		High period.			Low period.			September, 1920.		October, 1920.	
	Price.	Relative.	Month.	Price.	Relative.	Month.	Price.	Relative.	Price.	Relative.	Price.	Relative.
Cotton:												
Middling, New Orleans	$0.315	100.0	Apr., 1920	$0.414	131.4	Oct., 1920	$0.209	66.3	$0.271	86.0	$0.209	66.3
Middling, New York	.325	100.0	....do....	.424	130.5	....do....	.226	69.5	.301	92.6	.226	69.5
Flaxseed, No. 1, Minneapolis	3.648	100.0	Aug., 1919	5.858	160.6	....do....	2.839	77.8	3.219	88.2	2.839	77.8
Barley, fair to good malting, Chicago	.957	100.0	May, 1920	1.725	180.3	Feb., 1919	.900	94.0	1.006	105.1	.923	96.4
Corn:												
Cash, contract grades, Chicago	1.385	100.0	....do....	1.995	144.0	Oct., 1920	.888	64.1	1.315	94.9	.888	64.1
Cash, No. 3 mixed, Chicago	1.327	100.0	....do....	1.983	149.4	....do....	.878	66.2	1.294	97.5	.878	66.2
Oats, cash, Chicago	.693	100.0	June, 1920	1.114	160.8	....do....	.530	76.5	.585	84.4	.530	76.5
Rye, No. 2, cash, Chicago	1.625	100.0	July, 1920	2.232	137.4	Feb., 1919	1.367	84.1	1.945	119.7	1.696	104.4
Wheat:												
No. 1, northern spring, Chicago[1]	2.267	100.0	May, 1920	3.231	142.5	Oct., 1920	2.162	95.4	2.482	109.5	2.162	95.4
No. 2, red winter, Chicago[2]	2.235	100.0	....do....	2.975	133.1	....do....	2.205	98.7	2.492	111.5	2.205	98.7
No. 2, hard winter, Kansas City[3]	2.167	100.0	....do....	2.929	135.2	....do....	2.079	95.9	2.450	113.1	2.079	95.9
No. 1, northern spring, Minneapolis[4]	2.216	100.0	....do....	3.075	138.8	....do....	2.106	95.0	2.490	112.4	2.106	95.0
Bluestem, Portland, Oreg.[5]	2.200	100.0	Jan., 1920	3.200	145.5	....do....	2.175	98.9	[1] 2.363	107.4	[1] 2.175	98.9
Average	2.217	100.0	.....	3.082	139.0	.....	2.145	96.8	2.455	110.7	2.145	96.8
Hay:												
Alfalfa, No. 1, Kansas City	30.875	100.0	Apr., 1919	38.188	123.7	Oct., 1920	24.300	78.7	27.813	90.1	24.300	78.7
Timothy, No. 1, Chicago	33.000	100.0	May, 1920	45.375	137.5	Feb., 1919	26.750	81.1	33.875	102.7	31.500	95.5
Hides:												
Calfskins, country, No. 1, Chicago	.390	100.0	Aug., 1919	.925	237.2	Oct., 1920	.184	47.2	.229	58.7	.184	47.2
Goatskins, Brazilian, New York	1.300	100.0	Feb., 1920	2.488	191.4	....do....	1.231	94.7	1.350	103.8	1.231	94.7
Packers', heavy native steers, Chicago	.300	100.0	Aug., 1919	.520	173.3	....do....	.255	85.0	.284	94.7	.255	85.0
Packers', heavy Texas steers, Chicago	.280	100.0	....do....	.476	170.0	....do....	.194	69.3	.239	85.4	.194	69.3
Hops:												
New York State, prime to choice, New York	.244	100.0	May, 1920	1.025	420.1	Jan., 1919	.378	154.9	.703	288.1	.598	245.1
Pacific coast, Portland, Oreg	[2] .210	100.0	....do....	1.000	476.2	....do....	.386	183.8	.531	252.9	.388	184.8
Live stock:												
Cattle—												
Steers, choice to prime, Chicago	19.175	100.0	Jan., 1919	19.906	103.8	May, 1920	13.400	69.9	17.388	90.7	17.281	90.1
Steers, good to choice, Chicago	17.856	100.0	Mar., 1919	18.575	104.0	....do....	12.600	70.6	15.250	85.4	14.688	82.3
Hogs—												
Heavy, Chicago	17.850	100.0	July, 1919	22.225	124.5	Dec., 1919	13.690	76.7	16.544	92.7	14.775	82.8
Light, Chicago	18.094	100.0	....do....	22.388	123.7	....do....	13.680	75.6	17.069	94.3	14.788	81.

Sheep—												
Ewes, Chicago	9.469	100.0	Apr., 1920	14.250	150.5	Oct., 1920	5.219	55.1	5.544	58.5	5.219	55.1
Lambs, Chicago	16.075	100.0	Feb., 1920	20.519	127.6	.....do.....	12.531	78.0	13.388	83.3	12.531	78.0
Wethers, Chicago	10.650	100.0	Apr., 1920	15.656	147.0	Sept., 1920	7.344	69.0	7.344	69.0	7.381	69.3
Peanuts, No. 1 grade, Norfolk, Va	.100	100.0	Jan., 1920	.098	98.0	Mar., 1919	.051	51.0	.083	83.0	.070	70.0
Poultry:												
Live fowls, Chicago	.250	100.0	Mar., 1920	.388	155.2	Nov., 1919	.188	75.2	.305	122.0	.233	93.2
Live fowls, New York	.319	100.0	Apr., 1920	.501	157.1	Dec., 1919	.279	87.5	.385	120.7	.292	91.5
Tobacco, Burley, dark red, good leaf, Louisville, Ky	42.000	100.0	Mar., 1919	46.500	110.7	June, 1919	23.500	56.0	32.500	77.4	32.500	77.4
Coffee, Rio, No. 7, New York ⑥	.104	100.0	July, 1919	.230	221.2	Oct., 1920	.076	73.1	.082	78.8	.076	73.1
Sugar, 96° centrifugal, New York ⑦	.073	100.0	May, 1920	.209	286.3	Jan., 1919	.073	100.0	.107	146.6	.083	115.1
Tea, Formosa, fine, New York ⑧	.365	100.0	Jan., 1919	.365	100.0	Sept., 1920	.310	84.9	.310	84.9	.310	84.9
Cotton yarn:												
Carded, 10/1, Boston ⑨	.610	100.0	Apr., 1920	.778	127.5	Mar., 1919	.405	66.4	.543	89.0	.434	71.1
Twisted, 20/2, Boston ⑩	.720	100.0	Feb., 1920	.935	129.9	.....do.....	.426	59.2	.568	78.9	.435	60.4
Leather:												
Harness, oak, Chicago ⑪	.700	100.0	Sept., 1919	.905	129.3	Feb., 1919	.600	85.7	.670	95.7	.630	90.0
Sole, oak, Boston ⑫	.770	100.0	Aug., 1919	1.030	133.8	Jan., 1919	.785	101.9	.875	113.6	.800	103.9
Shirting, Lonsdale, factory ⑬	.245	100.0	Feb., 1920	.333	135.9	Apr., 1919	.176	71.8	.304	124.1	.239	97.6
Silk, Kansai, No. 1, New York ⑭	6.742	100.0	Jan., 1920	16.975	251.8	July, 1920	4.608	68.3	6.257	92.8	5.917	87.8
Wool:												
Fine clothing, Boston ⑮	1.811	100.0	Apr., 1920	2.216	122.4	Oct., 1920	1.216	67.1	1.351	74.6	1.216	67.1
Half blood, Boston ⑯	1.761	100.0	Feb., 1920	1.957	111.1	.....do.....	1.130	64.2	1.261	71.6	1.130	64.2
1/4 and 3/8 grades, Boston ⑰	1.437	100.0	Nov., 1919	1.255	87.3	.....do.....	.727	50.6	.836	58.2	.727	50.6
Worsted yarns:												
Crossbred, 2/32s, Boston ⑱	2.150	100.0	Jan., 1920	2.250	104.7	.....do.....	1.500	69.8	1.600	74.4	1.500	69.8
Fine domestic, 2/50s, Boston ⑲	5.000	100.0	.....do.....	4.750	95.0	Feb., 1919	2.800	56.0	3.500	70.0	3.250	65.0
Coal:												
Anthracite, chestnut, New York ⑳	7.000	100.0	Sept., 1920	10.541	150.6	Mar., 1919	8.004	114.3	10.541	150.6	10.536	150.5
Bituminous, prepared sizes, Pittsburgh ㉑	3.420	100.0	.....do.....	6.000	175.4	Jan., 1919	3.420	100.0	6.000	175.4	6.000	175.4
Coke, Connelsville, furnace ㉒	6.000	100.0	Aug., 1920	15.550	259.2	May, 1919	3.844	64.1	15.313	255.2	14.313	238.5
Petroleum, Kansas-Oklahoma, crude, wells ㉓	2.250	100.0	Mar., 1920	3.500	155.6	Jan., 1919	2.250	100.0	3.500	155.6	3.500	155.6
Copper, ingot, electrolytic, New York ㉔	.260	100.0	Aug., 1919	.228	87.7	Mar., 1919	.151	58.1	.187	71.9	.168	64.6
Lead, pig, desilverized, New York ㉕	.081	100.0	Mar., 1920	.092	113.6	Apr., 1919	.051	63.0	.082	101.2	.073	90.1
Pig iron, foundry No. 2 northern, Pittsburgh ㉖	35.400	100.0	Sept., 1920	51.210	144.7	.....do.....	28.150	79.5	51.210	144.7	48.460	136.9
Zinc, pig (spelter), New York ㉗	.091	100.0	Jan., 1920	.097	106.6	May, 1919	.065	71.4	.078	85.7	.075	82.4
Tin, pig, New York ㉘	.796	100.0	Mar., 1919	.725	91.1	Oct., 1920	.406	51.0	.444	55.8	.406	51.0
Brick, common, red, building, New York ㉙	13.500	100.0	Feb., 1920	25.000	185.2	Jan., 1919	15.000	111.1	15.767	116.1	16.500	122.2
Cement, Portland, domestic, New York ㉚	3.200	100.0	Aug., 1920	5.100	159.4	.....do.....	2.670	83.4	5.063	158.2	4.980	155.6
Linseed oil, raw, New York ㉛	1.653	100.0	Aug., 1919	2.220	133.1	Oct., 1920	1.076	65.1	1.215	73.5	1.076	65.1
Lumber, yellow pine, Norfolk, Va. ㉜	45.500	100.0	Mar., 1920	116.500	256.0	Jan., 1919	44.500	97.8	96.500	212.1	96.500	212.1
Shingles, red cedar, mills, Washington State ㉝	2.370	100.0	Feb., 1920	6.820	287.8	.....do.....	2.560	108.0	3.880	163.7	3.220	135.9
Cottonseed oil, prime summer yellow, New York ㉞	[3].198	100.0	July, 1919	.271	136.9	Oct., 1920	.111	56.1	.136	68.7	.111	56.1
Newsprint paper, rolls, contract, f. o. b. mills ㉟	.038	100.0	Oct., 1920	.066	173.7	Jan., 1919	.039	102.6	.061	160.5	.066	173.7
Rubber, Para, island, fine, New York ㊱	.572	100.0	Jan., 1919	.525	91.8	Oct., 1920	.217	37.9	.253	44.2	.217	37.9
Tobacco, smoking, New York ㊲	8.928	100.0	Oct., 1919	9.920	111.1	Jan., 1919	8.928	100.0	9.920	111.1	9.920	111.1

[1] No. 1 hard white, Portland, Oreg.
[2] November price. No quotation for October, 1918.
[3] April, 1918, price. No quotations from April, 1918, to July, 1919.
NOTE.—Encircled numbers identify commodities as shown in Diagram 1, facing p. 36.

Of the various commodities included in this comparison red cedar shingles show the greatest rise in price from the period of the armistice; that is, to 288 per cent of the October, 1918, price, in February, 1920. But sugar also rose to 286, in May, 1920. The October, 1920, figure was 115 for sugar and 136 for shingles. Connellsville coke showed the next highest maximum, namely, 259 in August, 1920, and the figure was still 239 in October, 1920. This commodity showed a low point of 64 in May, 1919. Other commodities showing conspicuous high points are yellow pine lumber, silk, and coffee. Lumber remains high, but silk and coffee are now both well below the armistice level.

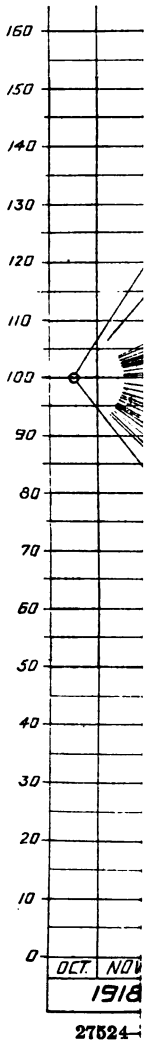
The low record among the commodities selected is held by rubber, with an October, 1920, index number of 38. Wool (the lowest of the three specified grades) and pig tin show October, 1920, indices of 51. Five out of the 22 commodities, including the three just mentioned, have not since reached the armistice level. The commodities in this class besides these three are domestic worsted yarns and electrolytic copper.

In general, as may be seen in the diagram, there was a period of lowered wholesale prices early in 1919, followed by increases, and then by the present general decline.

Since the significance of the above table, presenting the data in numerical form, may not be readily grasped, the facts contained therein are presented in graphic form in the following diagram.[7] Wheat is here compared with the 32 commodities, other than farm products.

Judging by the preceding table and diagram, producers of wheat have not had the opportunity to profit by high prices that has been open to producers of some other commodities. Neither have they, up to the end of the period covered by the table, suffered so much by low prices. Prices for the various varieties of wheat lower than the armistice prices had in no case been reached in September, 1920, and the low indices of October for wheat were 95 or better. If it were possible to extend the period of comparison into November, 1920, a less favorable comparative result would probably be shown. The fact that wheat prices at no time prior to October, 1919, went below the October, 1918, price is doubtless due to the Government guaranty effective down to July 1, 1920. Among farm products, only rye and hops show a higher price in October, 1920, than in October, 1918. Alfalfa hay and barley are about on the level of wheat, but timothy hay is much below wheat, with an October, 1920, index of 47, the low place among farm products. All other farm products, numbering 25 commodities, show lower wholesale prices in October, 1920, as compared with the armistice period, than wheat.

[7] The diagram as drawn does not show the actual course of prices from month to month like ordinary statistical curves. Only 4 points in the course of the curves are shown and the initial point of these 4 is identical for all the commodities by reason of the fact that it is made the basic point for the index numbers plotted. In some cases also the October, 1920, point is the low point, so that no intervening low point is shown. The lines connecting the points therefore have no specific meaning, being merely aids to the eye in showing the relation between the various highs and lows and final prices and making it possible to follow the relation between the various points. The points themselves are emphasized by being drawn as circles and within the circle a number is placed to identify the commodity. In order to distinguish them the more readily the wheat prices are connected by lines with projections, while plain lines are used for the other commodities.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Section 7. Price of wheat during 1920.

The following table shows weekly average prices for wheat, corn, oats, and rye from the beginning of 1920. The cash price and the various future prices are included, and in case of wheat cash prices for the three principal varieties as quoted at Chicago are shown separately. All the prices are Chicago prices.

TABLE 9.—*Weekly average prices of cash grain and futures for specified grains at Chicago in 1920.*

A.—WHEAT.

Week.	Cash No. 2.			Contract.	
	Red.	Hard.	Northern.	December.	March.
Jan. 5–10, inclusive	.....	$2.707	$3.316	.....	.....
12–17, inclusive	.....	2.677	3.200	.....	.....
19–24, inclusive	.....	2.628	[1]2.97	.....	.....
26–31, inclusive	.....	[1]2.56	[1]3.05	.....	.....
Feb. 2–7, inclusive	$2.562	[1]2.47	[1]2.61	.....	.....
9–14, inclusive	.....	2.341	[1]2.41	.....	.....
16–21, inclusive	.....	[1]2.37	[1]2.46	.....	.....
23–28, inclusive	.....	[1]2.41	[1]2.48	.....	.....
Mar. 1–6, inclusive	.....	[1]2.39	[1]2.57	.....	.....
8–13, inclusive	.....	[1]2.52	[1]2.52	.....	.....
15–20, inclusive	.....	[1]2.49	(1)	.....	.....
22–27, inclusive	.....	[1]2.54	.....	.....	.....
29–Apr. 3, inclusive	.....	[1]2.58	[1]2.95	.....	.....
Apr. 5–10, inclusive	.....	[1]2.65	.....	.....	.....
12–17, inclusive	.....	[1]2.75	[1]2.75	.....	.....
19–24, inclusive	.....	[1]2.83	.....	.....	.....
26–May 1, inclusive	.....	.....	[1]3.05	.....	.....
May 3–8, inclusive	.....	[1]3.00	[1]3.37	.....	.....
10–15, inclusive	.....	[1]3.06	[1]3.35	.....	.....
17–22, inclusive	.....	[1]3.01	[1]3.35	.....	.....
24–29, inclusive	.....	[1]2.88	[1]3.00	.....	.....
June 1–5, inclusive	.....	[1]2.97	[1]2.95	.....	.....
7–12, inclusive	.....	.....	3.00	.....	.....
14–19, inclusive	.....	.....	.....	.....	.....
21–26, inclusive	2.854	.....	.....	.....	.....
28–July 3, inclusive	.....	2.764	.....	.....	.....
July 5–10, inclusive	.....	2.830	[1]2.92	.....	.....
12–17, inclusive	.....	2.885	[1]2.90	$2.643	$2.676
19–24, inclusive	2.828	2.866	[1]2.85	2.563	2.608
26–31, inclusive	2.615	2.624	[1]2.57	2.337	2.361
Aug. 2–7, inclusive	2.405	2.421	[1]2.60	2.280	2.303
9–14, inclusive	2.544	2.544	2.730	2.390	2.420
16–21, inclusive	2.554	2.559	2.648	2.375	2.389
23–28, inclusive	2.537	2.542	2.544	2.332	2.300
30–Sept. 4, inclusive	2.554	2.571	2.549	2.372	2.332
Sept. 7–11, inclusive	2.568	2.573	2.603	2.448	2.413
13–18, inclusive	2.535	2.549	2.596	2.425	2.376
20–25, inclusive	2.527	2.449	2.508	2.322	2.248
27–Oct. 2, inclusive	2.340	2.306	2.340	2.331	2.128
Oct. 4–9, inclusive	2.139	2.065	2.062	1.969	1.942
11–16, inclusive	.....	2.187	2.249	2.102	2.052
18–23, inclusive	2.201	2.110	.....	2.038	1.959
25–30, inclusive	.....	2.145	2.159	2.065	2.000
Nov. 1–6, inclusive	2.209	2.091	2.123	2.025	1.960
8–13, inclusive	2.060	1.901	1.896	1.821	1.768
15–20, inclusive	1.945	1.870	1.864	1.804	1.703
22–27, inclusive	1.871	1.672	1.662	1.602	1.547

[1] Based on quotations for three days or less.

TABLE 9.—*Weekly average prices of cash grain and futures for specified grains at Chicago in 1920*—Continued.

B.—CORN.

Week.	Cash.	Contract.		
		September.	December.	May.
Jan. 5–10 (inclusive)	$1.536	.....	.....	$1.353
12–17 (inclusive)	1.511	.....	.....	1.331
19–24 (inclusive)	1.555	.....	.....	1.345
26–31 (inclusive)	1.540	$1.298	.....	1.356
Feb. 2–7 (inclusive)	1.484	1.267	.....	1.327
9–14 (inclusive)	1.423	1.238	.....	1.294
16–21 (inclusive)	1.493	1.273	.....	1.332
23–28 (inclusive)	1.511	1.266	.....	1.352
Mar. 1–6 (inclusive)	1.556	1.306	.....	1.405
8–13 (inclusive)	1.587	1.377	.....	1.477
15–20 (inclusive)	1.617	1.439	.....	1.544
22–27 (inclusive)	1.631	1.466	.....	1.560
29–Apr. 3 (inclusive)	1.681	1.485	.....	1.589
Apr. 5–10 (inclusive)	1.704	1.541	.....	1.648
12–17 (inclusive)	1.705	1.565	.....	1.681
19–24 (inclusive)	1.724	1.563	.....	1.684
26–May 1 (inclusive)	1.791	1.573	.....	1.736
May 3–8 (inclusive)	1.982	1.612	.....	1.851
10–15 (inclusive)	2.130	1.634	.....	1.949
17–22 (inclusive)	2.008	1.577	.....	1.869
24–29 (inclusive)	1.945	1.541	.....	1.887
June 1–5 (inclusive)	1.960	1.596	.....	.....
7–12 (inclusive)	1.961	1.604	.....	.....
14–19 (inclusive)	1.901	1.677	.....	.....
21–26 (inclusive)	1.860	1.692	$1.499	.....
28–July 3 (inclusive)	1.787	1.692	1.557	.....
July 5–10 (inclusive)	1.661	1.587	1.434	.....
12–17 (inclusive)	1.606	1.537	1.404	.....
19–24 (inclusive)	1.567	1.519	1.382	.....
26–31 (inclusive)	1.470	1.410	1.260	.....
Aug. 2–7 (inclusive)	1.505	1.432	1.251	.....
9–14 (inclusive)	1.608	1.482	1.252	1.240
16–21 (inclusive)	1.596	1.448	1.223	1.198
23–28 (inclusive)	1.642	1.439	1.197	1.173
30–Sept. 4 (inclusive)	1.499	1.395	1.185	1.157
Sept. 7–11 (inclusive)	1.431	1.392	1.204	1.180
13–18 (inclusive)	1.347	1.325	1.132	1.124
20–25 (inclusive)	1.260	1.257	1.025	1.030
27–Oct. 2 (inclusive)	1.191	1.264	.944	.970
Oct. 4–9 (inclusive)	.929	.....	.861	.895
11–16 (inclusive)	.933	.....	.872	.909
18–23 (inclusive)	.882	.....	.824	.876
25–30 (inclusive)	.873	.....	.824	.885
Nov. 1–6 (inclusive)	.905	.....	.830	.886
8–13 (inclusive)	.882	.....	.779	.826
15–20 (inclusive)	.812	.....	.711	.760
22–27 (inclusive)	.734	.....	.654	.717

C.—OATS.

Jan. 5–10 (inclusive)	$0.874	.....	.....	$0.843
12–17 (inclusive)	.865	.....	.....	.819
19–24 (inclusive)	.880	.....	.....	.826
26–31 (inclusive)	.895	.....	.....	.833
Feb. 2–7 (inclusive)	.872	.....	.....	.799
9–14 (inclusive)	.852	.....	.....	.774
16–21 (inclusive)	.883	.....	.....	.802
23–28 (inclusive)	.881	.....	.....	.797
Mar. 1–6 (inclusive)	.910	.....	.....	.823
8–13 (inclusive)	.919	.....	.....	.834
15–20 (inclusive)	.954	$0.692	.....	.860
22–27 (inclusive)	.959	.696	.....	.865
Mar. 29–Apr. 3 (inclusive)	.977	.698	.....	.876
Apr. 5–10 (inclusive)	1.024	.716	.....	.920
12–17 (inclusive)	1.023	.742	.....	.953
19–24 (inclusive)	1.015	.752	.....	.956
Apr. 26–May 1 (inclusive)	1.099	.755	.....	.994
May 3–8 (inclusive)	1.148	.772	.....	1.054
10–15 (inclusive)	1.156	.769	.....	1.063
17–22 (inclusive)	1.110	.749	.....	1.037
21–29 (inclusive)	1.070	.756	.....	1.025
June 1–5 (inclusive)	1.131	.787	.....	.....
7–12 (inclusive)	1.198	.818	$0.795	.....
14–19 (inclusive)	1.184	.852	.815	.....
21–26 (inclusive)	1.171	.855	.817	.....

TABLE 9.—*Weekly average prices of cash grain and futures for specified grains at Chicago in 1920*—Continued.

C.—OATS—Continued.

Week.	Cash No. 2.	Contract.		
		December.	September.	May.
June 28–July 3 (inclusive)	$1.131	$0.857	$0.826	.....
July 5–10 (inclusive)	1.073	.798	.771	.....
12–17 (inclusive)	1.021	.780	.764	.....
19–24 (inclusive)	.964	.767	.754	.....
26–31 (inclusive)	.789	.702	.698	.....
Aug. 2–7 (inclusive)	.798	.715	.703	.....
9–14 (inclusive)	.766	.721	.704	$0.733
16–21 (inclusive)	.725	.682	.682	.705
23–28 (inclusive)	.708	.669	.667	.690
Aug. 30–Sept. 4 (inclusive)	.687	.657	.664	.685
Sept. 7–11 (inclusive)	.666	.639	.657	.686
13–18 (inclusive)	.632	.615	.640	.675
20–25 (inclusive)	.586	.561	.593	.631
Sept. 27–Oct. 2 (inclusive)	.568	.539	.576	.616
Oct. 4–9 (inclusive)	.549	.....	.554	.597
11–16 (inclusive)	.562	.....	.565	.609
18–23 (inclusive)	.542	.....	.541	.590
25–30 (inclusive)	.552	.....	.543	.594
Nov. 1–6 (inclusive)	.551	.....	.538	.592
8–13 (inclusive)	.525	.....	.499	.552
15–20 (inclusive)	.513	.....	.467	.514
22–27 (inclusive)	.483	.....	.441	.485

D.—RYE.

Jan. 5–10 (inclusive)	$1.845	.....	.....	$1.858
12–17 (inclusive)	1.805	.....	.....	1.813
19–24 (inclusive)	1.723	.....	.....	1.740
26–31 (inclusive)	1.678	.....	.....	1.698
Feb. 2–7 (inclusive)	1.562	.....	.....	1.598
9–14 (inclusive)	1.512	.....	.....	1.544
16–21 (inclusive)	1.588	.....	.....	1.608
23–28 (inclusive)	1.578	.....	.....	1.591
Mar. 1–6 (inclusive)	1.659	.....	.....	1.664
8–13 (inclusive)	1.721	.....	.....	1.716
15–20 (inclusive)	1.754	.....	.....	1.734
22–27 (inclusive)	1.774	.....	.....	1.753
Mar. 29–Apr. 3 (inclusive)	1.833	.....	.....	1.810
Apr. 5–10 inclusive)	1.894	.....	.....	1.866
12–17 (inclusive)	1.974	.....	.....	1.950
19–24 (inclusive)	2.063	.....	.....	1.984
26–May 1 (inclusive)	2.149	.....	.....	2.097
May 3–8 (inclusive)	2.173	.....	.....	2.157
10–15 (inclusive)	2.248	.....	.....	2.231
17–22 (inclusive)	2.095	.....	.....	2.090
24–29 (inclusive)	2.135	.....	.....	2.134
June 1–5 (inclusive)	2.153	.....	.....	.....
7–12 (inclusive)	2.215	.....	.....	.....
14–19 (inclusive)	2.328	.....	.....	.....
21–26 (inclusive)	2.220	.....	.....	.....
28–July 3 (inclusive)	2.187	.....	.....	.....
July 5–10 (inclusive)	2.258	.....	.....	.....
12–17 (inclusive)	2.276	.....	.....	.....
19–24 (inclusive)	2.254	.....	.....	.....
26–31 (inclusive)	1.989	.....	.....	.....
Aug. 2–7 (inclusive)	1.866	.....	$1.756	.....
9–14 (inclusive)	2.060	.....	1.899	.....
16–21 (inclusive)	2.023	.....	1.860	.....
23–28 (inclusive)	2.029	.....	1.851	.....
Aug. 30–Sept. 4 (inclusive)	1.950	$1.694	.....	.....
Sept. 7–11 (inclusive)	1.942	1.759	.....	.....
13–18 (inclusive)	1.946	1.754	.....	.....
20–25 (inclusive)	1.966	1.706	.....	.....
27–Oct. 2 (inclusive)	1.956	1.658	.....	.....
Oct. 4–9 (inclusive)	1.637	1.574	.....	.....
11–16 (inclusive)	1.695	1.633	.....	.....
18–23 (inclusive)	1.728	1.643	.....	.....
25–30 (inclusive(	1.735	1.698	.....	.....
Nov. 1–6 (inclusive)	1.679	1.678	.....	.....
8–13 (inclusive)	1.581	1.565	.....	.....
15–20 (inclusive)	1.577	1.575	.....	.....
22–27 (inclusive)	1.471	1.463	.....	.....

The facts shown in the above table are more readily apprehended in the form of curves, which are therefore plotted in Diagram 2, facing page 42.

The averages plotted in the diagram are, of course, not the absolutely high or low prices for any period. In some cases, especially as regards cash wheat at Chicago, the data are not very satisfactory owing to diminutive or absent receipts on the Chicago market, especially during the winter and early spring. The arithmetical scale of the diagram does not always make clear the relative extent of the decline from the high point to the final point on the various curves.

No. 2 hard is the most satisfactory cash price wheat curve at Chicago. This shows a high point of about $3.06 for the second week in May and a low point of $2.07 for the first week in October. The ratio of the latter to the earlier point is 68 per cent. No. 2 northern wheat at Chicago shows a high point for the first week in May of $3.37 and a low point practically identical with that for 2 hard, both as to price and date, although in general the price of northern wheat has been higher than the price of hard winter wheat at Chicago.

The high price for corn during the calendar year 1920 to date occurred in the second week in May or at the same time as in the case of wheat. Although a very low point was reached in the first week in October the average for the last week in October was lower still. The highest price for the second week in May was $2.13; the lowest price was 87 cents for the last week in October. The ratio of lowest to the highest is 41 per cent. For oats the highest cash price was reached somewhat later in the year than in the case of wheat or corn—that is, in the second week in June, the price then being $1.20. The lowest cash price was reached the third week in October with a figure of 54 cents. The ratio of the lowest to the highest price in this case is 45 per cent.

It is evident from these figures and from the diagram that the prices of corn and oats have declined more sharply than has the price of wheat. The corn crop, however, was extraordinarily large in 1920, being estimated at 3,216,000,000 bushels on October 1. This is the largest corn crop in the history of the country and is larger by about 300,000,000 bushels than the crop for the previous year. It is also a crop of very high quality, having matured much more satisfactorily than usual owing to the extraordinarily good weather in the fall.

The oats crop is also very large, being estimated as of October 1, 1920, to amount to 1,444,000,000 bushels. This is nearly 200,000,000 bushels larger than the 1919 figure, but it was considerably exceeded in quantity by the crops of 1918, 1917, and 1915. Therefore the supply is not absolutely so very much larger than usual, as tested by comparison with previous years. In the case of oats the special war demand has very likely concealed the development of a new situation affecting the consumption of this crop, namely, the decrease in the number of horses in the large cities and to a less extent elsewhere, such as to cause a marked falling off in the demand for oats. Hence, although the crop is moderately large, the price decline might easily be expected to be very large.

The diagram under discussion contains curves for the prices of futures as well as of the cash grains. There will be occasion in an-

other connection to refer to the distances between the curves for futures and for cash grain, representing the discount on the futures.

It is frequently said that the price of American wheat is made at Liverpool. This is another way of saying that wheat is a commodity largely carried in international trade and for which there is a world market. It follows that for a surplus-producing country the price will be determined at the principal buying and consuming centers, which are in Europe. Therefore the export situation is very probably the principal factor that has controlled price changes during the present season. The export demand was very large during the early months of the crop year. It fell off very markedly about August 1, and has been rather spasmodic since. This change in European demand is a natural explanation of the decline in price, notwithstanding the fact that the wheat crop does not compare with corn or oats in quantity and is only of moderate size. It was European demand that held prices to the high level that prevailed during the early part of the crop movement. The decline in European demand took the support from under the market. Buyers for Europe were actively picking up wheat in cars through the Southwest during the early summer. They are no longer doing this.

It is true that there has been no similar change in the export demand for corn, because corn is in very little demand in international trade. The United States crop is practically all consumed in this country. Here the principal factor in the decline has been the very large crop. Something similar may be said of oats, with the qualification previously noted. However, it should be recalled that all three grains were affected as regards their comparative prices in the early spring and at present by a factor common to all and largely accounting for the extremely high prices prevailing in the early spring, namely, inadequate transportation facilities then and favorable conditions in that respect now.

The high prices in the early spring reflected shortages of grain at distributing centers, no adequate railroad equipment being available, especially box cars, to bring the necessary supplies from the country, and other transportation conditions being unfavorable. Prices in the terminal markets therefore reflected the shortage of grain urgently needed for immediate consumption and to apply on export contracts, and they did not reflect the supply situation back in the country. Prices were evidently held up, especially spot prices, during the spring, by transportation conditions, in a way to make the sharp decline since that date appear more acute.

As bearing out this explanation, it is to be noted that corn and oats future prices during this period were much lower than the spot prices. There were no wheat futures at that time, so that a similar comparison for wheat is not possible. For corn the discount on the September future all through May was over 40 cents a bushel. The discount on September oats through May and the early part of June was about 25 cents a bushel. It is noteworthy that oats since early in September have shown what is known to the grain trade as a "carrying charge"—that is, the future price went slightly above the cash price and conditions were such that elevators could afford to accumulate and hedge a stock of oats to carry through the winter. As regards corn, the discount on the futures has not yet quite disappeared, but it is to be noted that the 1920 crop is not yet being mar-

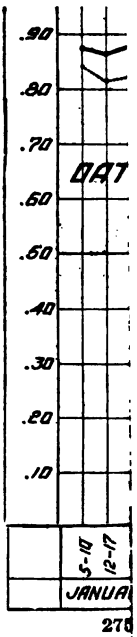
keted, therefore the large crop estimated for this year is not yet available for actual use.

The farmer could not market whatever grain he had on hand at the high prices prevailing early in the spring, to a great extent, because the country shippers could not get cars. If transportation conditions had been better the movement of grain might have been heavier, and prices at the terminal markets would doubtless have been lower. The farmers would have got more benefit from the situation, even though they would not have realized prices corresponding to those recorded by the terminal markets during the period in question. One grain trade man expressed the opinion that 50 cents of the price in the case of corn and a large portion of the wheat price that has been knocked off by developments during the summer and fall was due to transportation conditions in the early spring.

The large crop and the low price of corn affected the price of wheat. Aside from the general notion that the prices of grains are to a great extent sympathetic with each other, which is too intangible to have much explanatory value, it is true that in several ways corn may to some extent be substituted for wheat in consumption. Corn may be directly substituted for so-called mill feeds. Mill feeds are the principal by-product of flour milling. If their price is depressed by the competition of corn the miller will get less for this by-product, and will have to get more for his flour, or pay less for his wheat. A higher price for flour will tend to cause substitution to some extent of cheaper articles of food on the part of consumers. Low prices for corn mean less cost of production of meat, especially pork and beef. If the price of wheat bread does not come down as much as the price of meats the American consumer will be likely to substitute the consumption of meats, to some extent, for the consumption of bread. There is also the possibility of direct substitution of corn flour for wheat flour. The miller himself may mix a little corn flour with his wheat flour. European nations have become accustomed to mixed flours under war conditions; and, if the Governments which are compelled to do a large part of the buying of breadstuffs require some mixing of other ingredients with wheat flour, they can probably do considerably worse than use some corn flour. It is reported that recently the German Government has bought several million bushels of white corn, doubtless with reference to the fact that cheap flour can be made from such corn. It is said that the Southern States will consume less wheat flour than they have lately, and use more corn bread and more of the mixed flours, especially pancake mixtures, to which they are already largely accustomed. The ratio of the price of corn at 80 cents to wheat at $2 is, according to previous experiences in this country, a ratio highly favorable to the substitution of corn for wheat.

With regard to the conformation of the wheat curves in Diagram 2, it will be noted that there is a sharp drop occurring early in August, followed by a considerable upward reaction, and then another and lower drop occurring in the first week in October. There has been a still further drop in November. What these various declines mean is worthy of more detailed consideration.

The cessation of export demand may be considered the explanation of the drop that occurred early in August. The British Royal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Commission is said to have retired from the market on July 29. The low point came immediately after this decrease in export demand. The first low prices, however, are said to have caused a revival in European demand from other sources than the British Royal Commission. Under this stimulation prices went up again. But the August low point was doubtless accentuated by the short selling of futures and the reaction promoted by short covering. Another factor in the rebound was realization of the deterioration in the spring wheat crop of the United States. Doubtless the momentum of such speculation as existed helped to carry the movement forward and back, to a degree. The factors enumerated are all based upon the opinions of men in the grain trade.

As regards the October slump, the factor first to be mentioned is doubtless the size of the Canadian crop, and the tangible evidence of the size of that crop contained in the importation into the United States of several million bushels of Canadian wheat early in October. There was also a slowing down of export demand at this time. Another important factor was a general expectation that prices would go down and an appreciation that wheat must follow the tendency of other commodities. Back of this situation was tight money and uneasiness as to the credit situation. There was the usual feature of speculative momentum and rebound. There was doubtless much short selling. But the quantity and movement of Canadian wheat and the general price and credit situation were the most important influences. Another factor was the comparatively sudden realization of the very large corn crop. The decline in cash corn was very rapid and anticipated the decline in wheat prices.

The drop in prices that has more recently occurred, that is, in the second week of November, may be attributed mainly to the continuance of tight money, to apprehension as regards future credit and business conditions, and to similar general financial factors, rather than to anything specifically affecting wheat as such. All grains have been similarly affected despite the very low points previously reached in the prices of corn and oats. With reference to the factors in question, a comparison of prices on the New York Stock Exchange and prices of the various grains on the Chicago Board of Trade is appropriate. Such a comparison is made in Diagram 3, facing page 44.

Various statements have been made to the effect that there was nothing in the statistical position of wheat to cause any such declines in price as have actually occurred. These statements were made or emphasized several weeks ago before the size of the Canadian crop was fully appreciated, and before there was as much evidence as there is at present of large crops of wheat in the world as a whole. Such statements are based upon the very rapid rate at which the United States was being drained of its exportable surplus during the early months of the crop year, upon the fact that the United States crop by itself was considerably smaller than in the previous year, and upon assumptions regarding the stability of prices reached during the period of inflation following the war that are apparently not warranted. With regard to the possibility of a higher price, all grain men make any such prediction conditional upon there being a short crop in Argentina and a shortage of exportable surpluses

in general among our competitors in the supplying of Europe with breadstuffs. One grain man interviewed, however, believed that the extreme levels reached, including the tendency to low prices as well as the more temporary fluctuations, are due to speculation, and that the speculators will turn and attempt to corner the market in December and May and will put the price up to $3.

Section 8. The demand for flour.

Below is a table showing in terms of statistics the situation for the past few months as regards the demand for flour, and indicated stocks on hand, in comparison with the corresponding figures for 1919 and 1918:

TABLE 10.—*Domestic and foreign distribution of flour, first quarter, 1918–1920 and years 1918–19 and 1919–20.*[1]

[Thousands of barrels.]

	July.	August.	September.	Three months.	Twelve months.
1918–19.					
Stocks beginning of period	4,426	3,945	6,766	4,426	4,426
Output	6,515	10,238	12,161	28,914	121,425
Imports	12	4	11	27	38
Total	10,953	14,187	18,938	33,367	125,889
Exports of domestic flour	2,429	972	333	3,734	24,190
Exports of foreign flour					1
Apparent consumption	4,579	6,449	11,666	24,126	[2] 95,991
Total	7,008	7,421	11,999	27,860	120,182
Stocks end of period	3,945	6,766	6,939	6,939	5,707
1919–20.					
Stocks beginning of period	5,707	6,357	8,835	5,707	5,707
Output	7,596	12,042	14,087	33,725	129,395
Imports	2	1		3	159
Total	13,305	18,400	22,922	39,435	135,261
Exports of domestic flour	1,731	1,638	1,764	5,133	21,651
Exports of foreign flour			10	10	12
Apparent consumption	5,217	7,927	10,357	23,501	105,945
Total	6,948	9,565	12,131	28,644	127,608
Stocks end of period	6,357	8,835	10,791	10,791	7,653
1920–21.					
Stocks beginning of period	7,653	5,907	6,240	7,653	.....
Output	8,102	9,009	9,600	26,711	.....
Imports	26	18	15	59	.....
Total	15,781	14,934	15,855	34,423	.....
Exports of domestic flour	2,404	1,107	939	4,450	.....
Exports of foreign flour					.....
Apparent consumption	7,470	7,587	8,563	23,620	.....
Total	9,874	8,694	9,502	28,070	.....
Stocks end of period	5,907	6,240	6,353	6,353	.....

[1] From United States Grain Corporation's Supplement to Grain and Flour Statistics during the War and Russell's Commercial Review for Oct. 27, 1920, with exports corrected to agree with Monthly Summary of Foreign Commerce of the United States.

[2] Includes American Expeditionary Forces.

The above table shows that there has been a comparatively small accumulation of flour in the past four months, and that the grind has been less than usual. The chief factor in the decline in the grind, however, appears to be less export demand. Exports early in the

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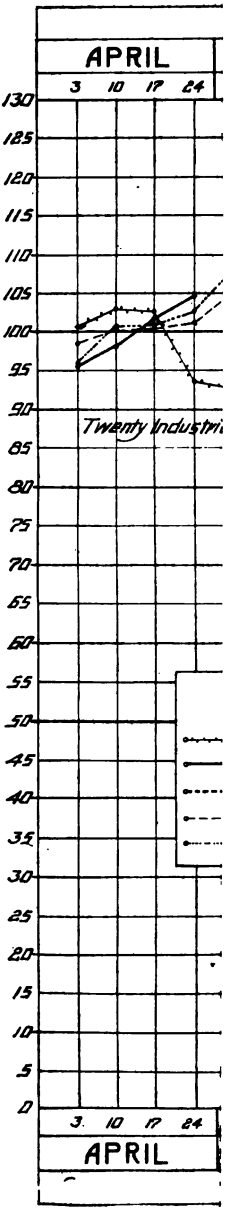
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quarter were largely the surplus of the United States Grain Corporation. It appears that output for the first quarter of this year is only 21 per cent of the total output of last year, and it is said to be less than 25 per cent of the average for three years, while a normal distribution would show a heavier percentage of the demand concentrated on the first quarter of the year. Representatives of a large flour milling company estimate the distribution of their demand to be such that normally 40 per cent of it is concentrated on the first quarter of the crop year. Other millers report corresponding decreases for the four months since the beginning of the 1920 crop year. Another miller says that since September 1, when the flour demand is usually very heavy, the demand has been the smallest ever experienced in this section. Representatives of another large milling company state that their sales of flour from September 1 to October 25 were one-sixth less than last year.

The extent to which these results are due to the low export demand, and to a substitution of exports of wheat for exports of flour, has an important bearing on the significance of these figures.

Whether the mills have been grinding less because of light export demand chiefly, or largely because of slackened domestic demand, the fact that since the first of the year they have ground 43,000,000 bushels less than last year (31,500,000 bushels, or 7,014,000 barrels, less in the three months to Oct. 1) means that they have been a very much less important factor in the wheat market. Not only have the millers been grinding less but they have not found conditions favorable for accumulation of stocks of wheat; so that their 150,000,000 bushels of storage capacity, computed by the Grain Corporation, is not being utilized for accumulation of wheat to anything like the usual extent during the crop-moving period. This holding back from the market may be due largely to financial and business conditions. It is very likely also due largely, as will appear later, to the unsatisfactoriness of the futures market for hedging purposes.

Millers are inclined to believe that all branches of the trade, and also families, were pretty well stocked up with flour on July 1, and have been living on their supplies to a great extent since. Perhaps the point of largest accumulation of stocks, however, was considerably earlier than July 1, and opinion of the flour trade is by no means unanimous as to the large stocks on July 1. Their opinion is most nearly unanimous in regard to family stocks, and here the opinion is largely guesswork at best. One miller believes that stocks were still, on October 1, larger than on the same date in previous years, while another thinks that all stocks except those of householders were smaller on July 1 than usual, and still smaller on October 1.

There is no question as to the tendency on the part of jobbers of flour, who are mainly the wholesale grocers, to cut down their stocks and deal on a "hand to mouth" basis. Available credits are limited in many cases and the jobbers have been influenced by what has happened to them in connection with sugar stocks and prices, as also of other commodities. Bakers are similarly affected and inclined to reduce stocks. It is the general opinion in the trade that about 50 per cent of flour sales are made to bakers, although the figure for some large mills is smaller. The baker is now buying flour for about 30 days ahead, while ordinarily he might be buying his supplies as

far ahead as May at this time. There has been an inclination on the part of consumers to expect lower prices all along the line. The domestic demand for flour has been poor since the beginning of the crop year.

A factor in the situation that is worth mentioning, although probably of minor importance, relates to transportation conditions. It is said that the baking industry is less disposed to acquire stocks ahead now because assured of better transportation and more prompt deliveries on orders.

Some millers expect the demand will be larger for the latter portion of the crop year, because they feel that the buyers have been holding back, and their stocks have been getting low. In other words, the demand for flour in the last eight months of this year should be better than normal, due to the small buying in the first four months. But so long as there is a general belief that prices are coming down, or going down further, and, so long as there are fluctuations, dealers will not buy. When there is confidence that flour is not going lower the demand will revive.

It is evident that general business conditions are an important factor in the situation. If credit conditions do not cause business difficulties to a great extent, it is contended that the demand for flour will revive and make up what it has lost; but if there is to be marked decreases in employment and decreased purchasing power on the part of consumers, their expectations with regard to a revival of demand in the latter part of the year will not be realized.

The foreign exchange situation and credit difficulties in the European countries explain, in part, a lessened demand for flour from Europe. The buying is in the hands of Government commissions to a very great extent, and they will deliberately prefer wheat to flour. That they will obtain the means to import necessary supplies regardless of financial difficulties would appear probable from the export demand for wheat during recent months.

The movement of flour exports for the first quarter (July to September) of 1920–21 was 13 per cent less than for the same period in 1919–20. A comparative increase of about 74 per cent in total wheat-and-flour movement was accompanied by a decrease in the flour movement taken by itself. It is asserted by large American millers that because of the falling off in both domestic and export demand for United States flour, and because of the availability of Canadian wheats for milling consumption, the European Government commissions have had the whip hand over the American wheat export market this fall.

The millers have recently complained very much of the Shipping Board's differential on flour, to which they attributed the small export demand. This situation was changed on November 1 by a revision of the rates, so that the Shipping Board will now carry flour at a differential of 5 cents over wheat, where formerly the differential was 25 cents per hundredweight.

Some millers were exceedingly optimistic as to the effect of this on the milling business and upon the demand for wheat. Although it must be recognized that in the long run it makes no particular difference to the farmer whether the foreigner buys his wheat as wheat or as flour, the millers felt that the change in the differential

would check a tendency to depression in wheat prices. Up to November 30 no such improvement in wheat prices was observable.

In connection with the comparison of exports of wheat and flour, furthermore, it should be noted that the situation prior to July 1, 1920, was to a great extent controlled by the Wheat Director who, it is reported, during the last six months of the life of the Grain Corporation was inclined to require Europe to take flour, rather than wheat, whenever possible. Some men in the grain trade, not millers, say that the wheat flour differential, or a change in it, will have no effect upon comparative exports, because the foreigners prefer wheat. So long as the buying is in the hands of Government commissions, it is likely that a small difference of price in favor of purchasing wheat flour instead of purchasing the wheat for making flour would not be of decisive influence in causing increased exports of flour.

Section 9. Mill feed.

Mill feed is an important by-product of the manufacture of flour. The price obtainable for it affects the price at which the miller is able to manufacture flour. If the demand for mill feed is light, and the price obtainable is low, the miller must figure on a somewhat larger margin on flour.

An important factor in the demand for mill feed recently has been the condition of pastures throughout the country. Green feed has been available much later than usual. The condition of pastures has been much above normal. The excellent hay crop this year has also cut down the demand for mill feeds and will affect it during the winter. There has, therefore, been a sharp break in the price of feedstuffs. This is reflected in mill feeds, as well as less important ingredients of manufactured feedstuffs such as wheat screenings, etc. Representative prices are shown below:

Comparative prices of feedstuffs per ton Apr. 24 and Oct. 30, 1920.[1]

Feedstuffs.	Apr. 24, 1920.	Oct. 30, 1920.
Spring wheat bran	59.00	33.00
Spring wheat middlings	63.00	33.00
Linseed meal	72.00	56.00
41 per cent cottonseed meal	[2] 81.00	47.00
36 per cent cottonseed meal	74.00	43.50
Gluten feed	75.00	43.75
Hominy feed	70.00	34.00
Ground barley	73.50	48.00

[1] All prices on Chicago basis in car lots. All from the Market Reporter, United States Department of Agriculture, Bureau of Markets.
[2] Last quotation and is as of Mar. 27.

The decline in prices for mill feeds amounts to nearly one-half. It has come since the last of April. The output is of course in direct proportion to the grind of the flour mills. Although the mills have been grinding comparatively little, the price has declined regardless of the resulting small supply.

The mill feeds market affects the demand for and the price of wheat. It is true this is a minor factor, but the direction of its influence and the fact that it is an influence are evident.

Section 10. Reopening of wheat futures and volume of trading.

Prior to the reopening of the wheat pit at Chicago on July 15, 1915, and the simultaneous opening of trading in wheat futures on

other markets, representatives of the exchanges met in conference, the United States Wheat Director being a party, to devise plans for the reopening of such trading. In the discussion there was evident considerable apprehension on the part of the members and officers of the exchanges with regard to the bearing of the transportation situation upon future trading and with regard to the possible deranging effects of concentrated buying by foreign Government commissions.

By the time the wheat pit was reopened apprehensions with regard to transportation were no longer so important as they had been earlier in the season, the transportation situation having greatly improved. It has improved progressively since July 15, so that there has been no obstacle in this quarter to the accumulation of adequate stocks of grain at terminal markets in due season according to the needs of the trade, including the need of facilities for delivery of grain on future contracts. Since midsummer the requirements of the grain trade have been probably as well met as they ever have been. This subject is discussed in more detail in section 14 of this report.

Apprehensions as to the possible deranging effect of concentrated buying and selling of futures by foreign Government commissions, based largely upon the experience of the exchanges during the crop year 1916–17, have not been justified by developments, at least so far as they are related to operations directly in futures. It does not appear that buying by foreign Governments has made any important use of the futures market. (See sec. 4 above.) In fact, the abstention of foreign Governments from the use of the futures market has apparently had a depressing effect upon future prices. It is not necessary to suppose, however, that this result has been a matter of deliberate policy upon the part of such buyers. Under conditions prevailing in this country as regards the supply of transportation equipment during the previous crop year, it had been difficult for foreign buyers to obtain delivery of grain purchased in this country and stored in elevators awaiting shipment. Under these circumstances they may have preferred to buy the loaded cars in the country at the crop-moving season that were ready for direct movement to the seaboard. At any rate, this is the practice they have adopted to a conspicuous degree.

It is doubtless true that the exchange representatives were apprehensive as to the possibilities afforded to speculators by the reopening of the wheat pit. Wheat futures were the greatest speculative specialty of the Chicago Board of Trade prior to the war. The effect of the opening of the wheat pit, with possibly a large volume of speculation and extraordinary movements of prices either up or down, was an event that the officers of the exchanges could not look forward to with equanimity, in view of the attitude of the public toward speculation. Apparently this feeling led to a deliberate policy on the part of the commission houses of exacting high margins from speculative traders in wheat. The commission houses were conservative, especially in the early weeks of trading. Margins required of speculators outside the circle of the grain trade, or of the exchanges, were fixed at 25 to 50 cents a bushel. In view of the actual fluctuations that have occurred in wheat since the opening of the pit, these margins were not unreasonable.

Apparently because of the fear of too speedy developments in the wheat pit, trading was opened with December as the earliest delivery month provided for. This meant an interval of 5½ months before the speculator was compelled to think of the obligation to make or accept delivery of the actual wheat as a thing to be taken into practical consideration, except as a remote contingency. This made it possible for sellers to put the price for futures down considerably below the price of the cash grain. It is felt by some men in the grain trade that trading in the wheat pit should have been started in near futures in order to keep the speculative wheat closer to the cash market. Incidentally, if by beginning trading with near futures the large premiums on the cash that have prevailed could have been avoided, the facility with which hedgers could have used the futures market during the crop-moving season would have been greatly increased.

There was a good deal of uncertainty and a degree of artificiality about the wheat futures market when first opened. A price level had not been established, and no one knew just what to expect, hence the wide range of fluctuations within the first few days of the opening. It is reported that one large grain concern bought and sold heavily on the various futures markets, with a view to stabilizing prices, although doubtless with a view also to obtaining incidental profits from these spreading operations between the markets. It is said that this interest had about 1,400,000 bushels open on a spread at Minneapolis at one time. There was very little trading of any sort in wheat futures during the first few days after the opening of the market. Some members were reluctant to resume future trading until wheat stocks had begun to accumulate. The discount on the futures made the market unsatisfactory for hedgers. All markets were presumably affected to about the same extent relatively. While the Chicago market was narrow, the Minneapolis and Kansas City markets were narrower still. The representative of a large milling interest in Minneapolis said that at times it was extremely difficult to get their hedges in or out of the Minneapolis market. The lack of hedging and other future trades reacted upon the situation in a way to increase the difficulty of using the market for legitimate purposes, because, it is claimed, large price fluctuations were brought about by comparatively small sales or purchases. Grain trade men often refer to the futures market as a sort of balance wheel. The reopened wheat futures pit did not operate in this way, and perhaps has not yet developed to a stage where it does so operate. It has been said that a sale or purchase of 20,000 bushels might cause a change in price of 5 cents under recently prevailing conditions.

The quantity of hedging done in wheat futures has doubtless increased as the market has become better established. Hedgers have held back because of the unsatisfactory character of the market. It is said that exporters have for some weeks past based their transactions on futures and future prices through the usual method of selling at so much over the future and then exchanging future contracts for cash. Wheat terminal elevators have also hedged with a fair degree of consistency, though under adverse circumstances, as will appear in the later discussion of terminal elevator hedging. It is the opinion of one prominent grain man, whose associations are not mainly with the Chicago Board of Trade,

that 80 per cent of wheat futures at Chicago from the opening down to the middle of October have been legitimate hedges in or out against actual wheat. This appears to be in some degree an overstatement, but not less significant. Another grain man estimates that hedging accounts for 50 per cent of the trading in wheat futures.

The amount of speculative trading (as distinguished from pit scalping) in wheat has probably been relatively small since trading was opened. It may have increased considerably and progressively during August and September and October. It has probably not kept much more than an equal pace with the increase in hedging trades. Trading by large operators has not been conspicuous on any of the wheat futures markets.

Pit scalping—or trading by men present in the pit done for their individual account with reference to obtaining profits from fluctuations during the day and with the intent to close "even," or with no open trades, at the end of the day's session—has for several reasons been very small in the reopened wheat futures market. The scalpers have been afraid of wheat, because of the instability of the market and the large range of fluctuations. A pit scalper may easily be wiped out entirely by a fluctuation of 5 or 10 cents, if he happens to get caught. Furthermore, the tax on futures weighs comparatively heavy on the scalper in wheat. The tax is levied at the rate of so much per hundred dollars of value involved in the contract. Therefore, if wheat is worth twice as much as corn, the tax is twice as heavy on the wheat trader as on the corn trader, and if wheat is worth nearly four times as much as oats the tax is nearly four times as much on the wheat trader as on the oats trader. It is true that the scalper does not have to pay any tax on a considerable number of trades, namely, those opened and closed at the same price within the same day for his own account, but this exemption does not alter comparative costs and thus does not affect the obstacle imposed by the tax upon trading in wheat futures. Men in position to observe the wheat pit say that scalping there is neglible, but such judgments are doubtless relative and should be taken to mean that the quantity of scalping in wheat is very small in comparison, for example, with that in corn.

As regards the amount of spreading between markets, there is no definite evidence as to its volume, and it may be presumed to have been in about the usual proportion. Statements that there has not been much spreading are more frequent than statements of the opposite tenor.

There has been some British and Canadian trading in Chicago wheat futures, presumably in the main for hedging purposes. The Winnipeg market has been so narrow that Canadian interests have been compelled probably to a larger extent than formerly to make their hedging sales on the Chicago market. This may have been a factor in depressing future prices on that market. As regards European trade in futures, the effect may also have been negative, owing to their staying out, instead of buying, as they have done formerly.

Millers' hedges would normally be a considerable factor in the futures market. Their possible influence on prices is of interest because, so far as the miller has occasion to hedge flour contracts

against which he has not accumulated the actual grain, he hedges by buying the futures. Under circumstances that have prevailed since the opening of the futures market, however, the millers have had no occasion to hedge flour contracts in this way, because of the very slack demand for flour, even for immediate delivery, let alone the lack of confidence on the part of men in the flour trade such as might cause jobbers and bakers to enter into contracts for forward delivery. As regards the millers using the futures for hedging wheat in store in their own elevators, this of course by selling a future, they have not felt that the conditions as regards price tendencies, and the discounts on futures, were such that they could afford to accumulate grain to anything like the normal extent. One miller illustrates the situation by the condition of his own mill. In the latter part of October he had in store 39,000 bushels of wheat as compared with a quantity in other years ranging from 100,000 to 750,000 bushels.

According to the best opinion of Minneapolis commission houses, farmers are using the futures market to a less extent this year than they did previous to the war.

For the volume of trading in wheat futures at Chicago there are definite figures available from monthly returns made to the Internal Revenue Bureau. These make it possible to compare the volume of trading in the important grain futures at Chicago, and also to determine the extent of the open interests. The following tabular statement shows the approximate quantity of future trading in wheat, corn, and oats, respectively, in August, September, and October, also the comparative volume of trading as represented in the per cent distribution of the trades for these three grains:

Month.	Volume of future trading.[1]				Per cent distribution of volume.			
	Wheat.	Corn.	Oats.	Combined.	Wheat.	Corn.	Oats.	Combined.
1920.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*				
August	86,000,000	892,000,000	256,000,000	1,234,000,000	7.0	72.3	20.7	100.0
September	196,000,000	1,022,000,000	276,000,000	1,494,000,000	13.1	68.4	18.5	100.0
October	484,000,000	903,000,000	271,000,000	1,658,000,000	29.2	54.5	16.3	100.0

[1] Trading in rye and barley futures at Chicago for the same months were respectively as follows: August, 33 and 2; September, 29 and 2; October, 21 and 2; all figures being approximate millions.

Prior to the war the volume of future trading in wheat was probably not less than that in corn and oats combined.

In the quantities shown in the above statement each purchase and sale in a single trade is counted but once. The total is in effect checked by reason of the reporting of a trade by the parties to it in duplicate, one returning the purchase and the other the sale. The returns of purchases and sales by the members of the clearing house are not identical, but the preliminary figures vary so slightly that the approximate figure above given, which is substantially a mean between the two totals, is accurate for all practical purposes.

With regard to wheat, further details have been obtained to show, not merely the volume of transactions, but also the quantity of trades open at the close of each month, from the beginning of trading down to the latest date for which the figures are available.

Month.	Wheat futures trades.	Open at close of month.
1920.		
July 15–31	25,000	8,500
August	86,000	15,500
September	196,000	38,400
October	484,000	38,900

For comparison with the second column above it may be noted that corn trades open at the close of September were 92,000,000 bushels and open oats trades 48,000,000 bushels. At the close of October the open corn trades were 76,000,000 bushels and the open oats trades were 43,000,000 bushels. The lower ratio of these figures to transactions may be taken to indicate a greater proportion of pit scalping.

No attempt has been made to obtain figures of the volume of future trading on the less important markets. It is well known that trading in grain futures is highly concentrated at Chicago. Statistics for the period prior to the entrance of the United States into the war indicate that six-sevenths of all trading in grain futures in the United States is done on the Chicago Board of Trade. It has appeared unnecessary to compute the volume of future trading on other markets. The volume of trading has been very narrow at Minneapolis and Duluth; so narrow indeed as to make these markets difficult to get in and out of with hedges of any considerable size. The greatest element in the trading is doubtless hedging, and this element predominates to an extent not true for the period prior to the war. There have been no large speculative operators conspicuous in future trading at Minneapolis or Duluth or at Kansas City. There may have been slightly more speculation at Kansas City than in the Northwest markets, but the volume has been probably inconsiderable as compared with former conditions and clearly insignificant as compared with the usual amount of speculation at Chicago.

The most important hedging interest in the grain trade, an interest which also indulges largely in spreading between markets, showed a net long condition on all markets of 1,095,000 bushels on August 2; 2,317,000 bushels net long on September 1; 216,000 bushels net short on October 1, and 578,000 bushels net long on October 25. These net open trades were in the main hedges against cash grain bought or sold. But on the three dates for the 1st of the month the concern in question showed a net long or short condition, taking account of both cash and future commitments, accentuated by its interest in futures. On October 25, on the other hand, it was short as regards cash and futures together and long in futures by themselves.

Section 11. Hedging in wheat futures.

The most important hedgers are the elevators that accumulate large stocks of grain, according to trade conditions, against which they sell futures in order to protect themselves against unforeseen changes in grain-price levels. Among the elevators, by far the most important hedgers are the terminal elevators. In the Northwest, under normal conditions, most country elevators hedge and line elevators, controlled from terminal markets, usually hedge consistently. In the Southwest there are fewer line elevators and less consistent hedging even by

such lines as there are. Furthermore, country elevators have limited storage capacity and depend for their earnings more upon turnover than upon performing a warehousing function. Terminal elevators are primarily warehouses and are used to accumulate and hold grain for longer periods according to the season and according to trade conditions. Terminal elevators are built to accumulate grain in large quantities, and the operators may hold it for some months, selling futures against it to avoid risking great loss from a decline in price. Assuming a constant relation between cash and future prices, if there is a decline in price the profit on the future sold, when it is bought in, compensates for the loss on the cash grain held when that is sold.

The ideal condition for hedging by a terminal elevator exists when the future is slightly higher than the cash grain or, in the terms of the trade, when future prices are on a "carrying-charge" basis. Under such circumstances it is possible for the terminal elevator to buy the cash grain and store it, selling the future at a cent or two above the price it pays for the cash, and holding the grain for delivery on the future contract at the contract price when the future matures, which process yields to the elevator as earnings for carrying the grain the difference between the price it paid for the cash grain and the price for which it sold the future. The relation between cash and future prices is seldom such that the terminal elevator's hedge works out this way. The cash grain can usually be sold on the basis of its quality at slightly more than the futures. Furthermore, the futures are frequently, and of late increasingly, at a discount as compared with the cash grain. Under such circumstances grain can not be accumulated and disposed of at a profit through delivery on future contracts made at the time the grain is purchased.

Notwithstanding the obviously unfavorable price situation for terminal elevator hedging when the futures are at a marked discount below the cash, terminal elevators do hedge their purchases by sales of the futures and have done so as regards their wheat purchases during the period since July 15, regardless of the fact that the future has sometimes been as much as 25 cents a bushel below the cash. Under such circumstances, however, the elevators do not accumulate grain but sell it as soon after they buy it as is practicable in order to prevent the loss they will incur if the spread between the future and the cash narrows or disappears. It is bound to disappear at the close of the delivery month.

As noted above, wheat futures since July 15 have usually been at a marked discount. This has made hedging conditions unsatisfactory. In addition to its size, the discount has greatly fluctuated along with the fluctuations in future prices. Such sharp fluctuations impair the usefulness of the future as a hedge because even if the elevator operator is able to get rid of his purchases quickly, so that the normal tendency of the discount to narrow would not be operative to reduce his profits greatly, yet, because of the sharp fluctuations, the buying in of his hedge, even shortly after he puts it out, may involve a loss that is not made up on the cash transactions. On the other hand, it is thought better to risk the possibility of a 5-cent loss through fluctuations in the discount, or through the narrowing of it during a short period, than it is to risk a 50-cent loss in a few weeks by reason of not hedging at all. These are

the alternatives that have faced elevator operators handling wheat during the present season.

It is the general consensus of opinion in the grain trade and is admitted by the strongest advocates of future trading that the wheat futures market since its opening has not worked satisfactorily for hedges. The reasons for this, as already indicated, are the large discount and the sharp fluctuations in future prices. This situation has necessitated operating on larger margins than are usual for terminal elevators. Statements that hedging has worked satisfactorily for the elevators may be taken to refer to general or typical conditions rather than to the specific situation relating to wheat futures since July 15. It is true, however, that practically all the operators of private terminal elevators do hedge, though they avoid the necessity of hedging as much as possible by making their purchases and sales as nearly coincident as is practicable. It is stated, and it is evidently true, that hedging conditions have been better in the past month or two than they were during the earlier period of the resumption of future trading.

It is probable that country elevators that might otherwise hedge have been dissuaded from doing so by reason of the large discount on the future, which looks to them like starting in with a loss on their transactions. It is true, nevertheless, that if they have held unhedged grain for any length of time during the present marketing season they probably lost more by reason of not hedging than they could have lost by reason of the discount on the futures.

Back of the large discount and the sharp fluctuation in prices is doubtless the small volume of trading that has characterized wheat futures since the opening of the market. The reopened market has not had time to adjust itself to the requirements of the situation and perhaps will require some months still before conditions resemble those now prevailing in corn futures, or such as prevailed in wheat before the war.

With reference to the discount on futures, the fact must be taken into consideration that the price on the future contract is prospective and may register conditions several months ahead as anticipated by speculators. It is, therefore, not difficult to explain why at times December wheat may sell in August at a price much below so-called spot wheat immediately and urgently needed at the terminal market. With reference to the better functioning of the futures market for hedging purposes, a system of so-called near futures is advocated by some men in the grain trade. It is urged that the conditions as regards supplies and prospective needs 30 or 60 days from the date of the future contract will not usually be so different from those at the time of its execution, and in the terminal market where delivery is called for, as to permit the discount to become so considerable for near deliveries. It is noteworthy that terminal elevators in general prefer to hedge in the near option. For example, cash transactions occurring in November will be hedged in the December option rather than in May. It is also noteworthy that future trading in wheat, when reopened in July, did not make use of the next standard future delivery month; that is, September. No trades were permitted for nearer delivery than December.

The hedging use of the futures market by millers has not been so different from that of its use by elevators as might apriori be supposed. The reason for this is that all mills have more or less storage capacity and the big mills have very large elevators. By accumulating wheat during the crop movement, the miller can pick from the receipts from the country the carlots that show the qualities that he particularly wants, either with reference to intrinsic millable value or with reference to the commercial advantage to be obtained from blending the different varieties of wheat. It is largely with reference to being able to buy so-called virgin or unmixed wheat as it comes from the country that the big mills find it desirable to have large elevator capacity.

The situation of the miller as regards the hedging of his purchases of wheat is different from that of the elevator because he may be selling flour in advance of accumulations of wheat. If so, he will wish to hedge his flour contracts by the purchase of wheat futures just as much as the elevator company will wish to hedge its purchases of grain by the sale of futures. In discussions of hedging, it is often assumed that millers will have flour contracts to hedge instead of having grain that they need to hedge. In fact, and doubtless more and more in recent years as compared with 15 or 20 years ago, the miller will often have a net quantity of wheat to hedge instead of having a net quantity of flour contracts to hedge. Therefore, he is as likely to need the futures market, especially during the season of heavy crop movement, for hedging grain purchases as he is for hedging flour sales. As regards the big mills, and as regards the season of heavy crop movement, the mills are as likely to be hedging by sales of futures as by purchases of futures, although in this respect the needs and transactions of the mills differ greatly from year to year.

With a discount on the futures in relation to the cash grain, or in other words a premium on the cash grain, the situation as regards hedging purchases is the opposite of what it is as regards hedging sales of futures. If the initial future transaction is a purchase when the future is at a marked discount, the prospective narrowing of the discount inures to the profit of the miller instead of causing him a loss, or it may be used to enable him to sell flour at a low figure as compared with the price he pays for the wheat used. Claims have recently been made that millers were offering flour to the public at a margin as compared with the cost of wheat which would apparently result in a loss. In order to take advantage of the discount on futures in this way, however, the flour contract hedged by the purchase of futures should run for some months, and in fact for the transaction to work out perfectly, the flour contract hedged in the December option should be for delivery in January. In that case the mill may take advantage of the discount on the future by actually obtaining the wheat for grinding from deliveries made to it on future contracts in December. In practice, however, millers prefer to buy the actual wheat in the cash market on the basis of quality as determined by sample, at the same time closing out their hedges by selling the future. Such a future sale to close the hedge, however, should come near the close of the life of the particular option in order that the assumed large discount on the future will have been narrowed down to a small amount, as it is bound to do with the approach of the maturity of the future contract.

The situation in relation to the use of futures by millers since the opening of the wheat pit in July is indicated by statements of a prominent miller made to the Commission's examiner at one of the terminal markets. This miller emphasized the need and advantage of the futures market to the miller for hedging purposes, referring, as it appeared later in the conversation, to the normal situation as it was before the war. His mills were stated to hedge consistently and to avoid speculation in any form. Then the conversation was directed to the use of the present wheat futures market, and this miller said that it was not satisfactory for hedging purposes; indeed so much so that he had not sold or bought a bushel of wheat futures since the market was opened. Early in the year he had met with his directors and discussed the situation, and they had decided on what he referred to as a replacement policy in the matter of purchases and sales during this season. In other words, he was purchasing wheat only as he sold the flour, and contracting to sell the flour only when he could see where the wheat to grind to meet the contract could be obtained. The kind of hedge he had in mind was the hedging sale against stocks of wheat accumulated. When asked whether, if he could get the flour contracts for forward delivery, he would be glad to use the futures market for purchases against such flour contracts, he promptly said that under present conditions he would be willing to take all the flour contracts he could get and hedge them in that way. In other words, the large discount on the future would be profitable to the miller, provided there was a demand for flour contracts for forward delivery. The fact is that there is practically no contracting ahead for flour supplies at the present time, and there has been practically none this summer. Jobbers and bakers are buying minimum stocks and are using up their reserves.

Not so very long ago in discussing the use of futures for hedging purposes, it was usual to explain how the market was used by means of sales on the part of elevators against their purchases of actual grain, and how, on the other hand, flour mills had occasion to use the futures market by purchases of futures against flour-sale contracts. Under present conditions there is no such two-sided use of the market for hedging purposes. While the millers may hedge their purchases of grain by flour contracts to a great extent, and therefore do not so much need the futures market for hedging sales as the elevators do, yet it is probable that more of their hedging operations are initiated by a future sale, or that they are more often on the selling side of the market initially than on the other side. Therefore the futures market as a hedging facility is not a balanced affair with elevators selling and mills buying. It is a one-sided affair with elevators practically always selling initially and mills more often selling in the first instance than buying. This refers, of course, to the initial transaction. Presumably the mills and the elevators will shortly buy in their hedging sales, though the elevators may in some cases make delivery on future contracts and the mills will sometimes take delivery on their purchases of futures. Against the mass of hedging sales put on in the futures market during the period of the crop movement there is no regular source of buying orders, unless it be from speculators. It is true that a future sold will presumably be bought in later on, and at the time of its being bought in there

will be an upward tendency of prices to compensate a possible downward tendency attributable to hedging pressure at the time of the sale. But there is a considerable separation in the time between the sale and the purchase for hedging purposes, to whatever extent grain is held from the period of heavy receipts in the fall to the period of cleaning up stocks in the winter and spring. The fact that the market tends to be depressed by hedging sales in the fall, when the crop movement is heavy, is not in any way counteracted or compensated to the farmer, even if it is true that these sales involve buying later, so that the price tends to be put up by buying in the winter and spring, because the farmer has usually parted with his grain by that time and can not take advantage of the better price.

Fluctuations in prices and in the spread between cash and future prices are just as unsatisfactory to one class of hedgers as to another. Such fluctuations mean an imperfect working of the hedge, and are occasion for the taking of larger margins by millers as well as others who have occasion to use the futures market for hedging purposes. On the whole, however, so far as millers can get flour contracts to hedge, they can make a more satisfactory use of futures than elevators in that the tendency of the discount to narrow is in general in their favor instead of against them. It is alleged by some men in the grain trade that millers have been a considerable factor this summer in the wheat futures market on the buying side, but the weight of the evidence would tend to show that they have been a very much less important factor in this way than has usually been the case.

The typical opinion with regard to the present wheat futures market is that it is not satisfactory for hedging purposes, but is better than nothing at all. One miller says that the futures market is of some service because it makes a stopping point for losses. Another miller refers to his policy of refusing to take orders for forward delivery of flour beyond two months, because he is afraid that customers might fall down on their contracts, if there came a big decline in the price of wheat. In fact, millers generally, as appears elsewhere in this report, are doing much less business than usual, and are afraid to stock up with wheat, and do not have the opportunity often to sell flour in advance. Jobbers and bakers are discouraged by the tendency of prices, and are not making flour contracts for forward delivery, as they usually do in the summer. Doubtless the millers have been using the futures market for hedging purposes to a greater extent recently than during the weeks when it was first opened, because it is felt that the market is functioning better now for their purpose.

Exporters constitute another important class of grain dealers that make a very large and accordingly consistent use of the futures market. The statement is made that exporters always hedge. Such a proposition, however, is always subject to the qualification that a dealer in grain to a considerable extent may make his sales and purchases coincide with each other as to quantity and time and thus avoid the necessity of using futures for hedging purposes. Doubtless exporters have done this to a considerable extent whenever there has been an unsatisfactory hedging market. Because of the large quantity of a given grade which must be procured on one order, exporters can do only a restricted business on a flat-price basis. Ex-

porters make their sales abroad in large lots. The quickest way to insure themselves of ability to meet such contract of sale for several hundred thousand bushels is to buy the future as a hedge and then pick up the grain piecemeal in the course of a few days, buying from terminal elevators or to some extent in the country. Especially during the summer of 1919 they were buying to a great extent in car lots in the country. Since the exporter ships very promptly, and leaves his hedge open only a short time, he is not so much concerned about the discount on the future, but is hampered in his operations by rapid fluctuations therein. It is stated that since about August 1 exporters have not only been hedging by way of futures, but have based their offers abroad upon the future price; that is, quoting at so much over the future. Changes in the volume of contracts for export, as already noted, have been an important factor in the fluctuation of the futures market. With the market rather narrow at best, the presence or absence of such large buying power would make a great difference in prices.

Exporters possibly to a greater extent than other grain dealers use the futures for the purpose of getting actual grain. It is said that foreign buying interests, either directly or through exporters, have been buying December wheat, expecting to take delivery and export the delivered grain in January, but it is also and more commonly said that the foreign buying interests this year are not a factor in the futures market.

The following table shows the average spread between cash and future prices at Chicago by weeks:

TABLE 11.—*Weekly average spread between cash and future prices (cash premiums) for wheat, corn, and oats (in cents per bushel), July–October, 1920.*

A.—WHEAT.

Weeks.	Contract—December.			Contract—March.		
	Cash No. 2 red.	Cash No. 2 hard.	Cash No. 2 northern.	Cash No. 2 red.	Cash No. 2 hard.	Cash No. 2 northern.
1920.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
July 5–10	[1] 28.0	[2] 25.5	[2] 33.5	[1] 30.0	[2] 25.0	[2] 30.5
12–17	27.5	32.1	[2] 29.3	22.7	27.3	[2] 23.6
19–24	29.0	29.3	[2] 35.0	26.6	27.0	[2] 33.0
26–31	14.3	13.9	30.6	12.3	12.0	29.0
Aug. 2–7	16.3	15.3	31.2	13.0	12.0	28.0
9–14	18.4	17.5	21.7	16.8	15.9	20.1
16–21	20.8	20.6	17.4	24.3	24.1	20.9
23–28	18.4	18.6	14.6	22.2	22.4	18.4
30–Sept. 4	12.2	11.3	11.6	15.6	14.7	15.0
Sept. 7–11	12.0	10.5	15.3	17.3	15.8	20.5
13–18	22.5	13.6	15.5	29.9	21.0	23.0
20–25	19.3	13.5	19.5	24.8	19.0	24.9
27–Oct. 2	21.0	10.9	7.8	23.7	13.6	10.3
Oct. 4–9	24.8	12.0	19.6	29.8	16.5	24.0
11–16	27.6	9.4	11.3	35.6	17.1	20.3
18–23	15.8	8.8	12.2	22.3	15.0	18.8
25–30	[1] 16.0	9.5	7.4	[1] 22.5	15.6	14.4
Nov. 1–6	[2] 24.9	9.4	12.4	[2] 30.9	14.3	17.1
8–13	[2] 22.3	9.1	8.6	[2] 32.5	18.7	18.3
15–20	[2] 28.6	9.0	9.5	[2] 39.5	14.2	14.6
22–27						

[1] Quotations for both terms for 1 day only.
[2] Quotations for both terms for 2 days only.
[3] Quotations for both terms for 3 days only.

TABLE 11.—*Weekly average spread between cash and future prices (cash premiums) for wheat, corn, and oats (in cents per bushel), July–October, 1920*—Continued.

B.—COARSE GRAINS.

Weeks.	Corn.			Oats.		
	Contract September.	Contract December.	Contract May.	Contract September.	Contract December.	Contract May.
1920.						
July 5–10	4.1	19.7	.....	26.8	29.7	.....
12–17	4.9	18.0	.....	23.8	25.3	.....
19–24	4.0	17.2	.....	19.0	20.3	.....
26–31	7.0	21.6	.....	8.1	8.4	.....
Aug. 2–7	8.6	26.2	31.0	7.6	8.8	.....
9–14	11.8	34.1	36.5	4.3	5.8	2.7
16–21	14.8	36.1	38.6	3.9	4.0	1.6
23–28	18.9	42.7	45.0	3.3	3.5	1.1
30–Sept. 4	8.6	29.1	31.8	2.0	1.1	−1.1
Sept. 7–11	31.5	21.4	23.8	2.2	.3	−2.7
13–18	2.6	21.5	21.9	1.5	− .9	−4.5
20–25	.7	22.2	21.6	2.6	− .5	−4.3
27–Oct. 2	0.0	23.6	20.9	3.4	− .7	−4.7
Oct. 4–9	.....	6.1	2.7	.....	− .4	−4.7
11–16	.....	6.0	2.2	.....	− .5	−4.9
18–23	.....	5.4	0.0	.....	− .2	−4.9
25–30	.....	4.4	− 1.9	.....	.9	−4.3
Nov. 1–6	.....	6.2	.4	.....	1.3	−4.2
8–13	.....	9.7	4.9	.....	2.9	−2.6
15–20	.....	9.1	4.1	.....	4.7	− .0
22–27	.....	5.9	− .4	.....	4.6	.1

It will be noted that oats have shown a carrying charge for some weeks, and corn is close to such a basis. Even at the end of October, however, discounts on wheat futures varied according to the cash variety from 9 cents to 16 cents for the December option, and from 15 cents to 22 cents for March. The December delivery was then only one month away with wheat stocks in Chicago insignificant in amount. Discounts have been as large as 35 cents. Such conditions are evidently not satisfactory for the hedging of cash grain holdings.[8] The above figures do not show the fluctuations in the prices of futures which further impair the usefulness of the wheat futures market to hedgers. Figures showing the range of fluctuations are given in the next section.

Section 12. Extent and influence of speculation in wheat.

The extent of speculation in wheat futures can not be deduced directly from the available figures of the volume of trading. Because the volume of trading in wheat is so much smaller than the volume of trading, for example, in corn, it may be inferred that there has been less speculation in wheat. As to the quantity of speculation, the only way of arriving at an indication of that is by way of its ratio to the total of trading in wheat futures. All the indications are to the effect that the proportion of speculation in the total of wheat future trading is smaller than usual, much smaller than in corn at present, and much smaller than it was in wheat be-

[8] Some part of the discount may, of course, be due to a premium for quality, even within the range of the contract grade. When the delivery is some months off, position in relation to local demand may be a decisive factor in the difference.

fore the war. In other words, the proportion of hedges to total future trades appears to have been greater during the past 6 months than usual. This is partly due to the comparatively small amount of scalping in futures and to a less extent to the small amount of speculation by other speculative traders who carry open trades from one day to another or even through long periods. Speculation in wheat futures since July 15 has doubtless been absolutely as well as relatively small in comparison with what might usually be expected. Doubtless, on the other hand, the volume of such speculation has been increasing as the season has advanced.

While fluctuations in wheat future prices, and of course in cash prices to some extent by way of reflection from the futures, may be explained primarily as due to the narrowness of the market, irrespective of the constituent elements of the trading, it is reasonable to suppose, and there is a good deal of grain trade opinion to the effect, that some of the extremes touched have been due to the speculative element. The shorts have at times carried the market too far and then have become frightened and run to cover. It is probable that the low price reached early in August was due to the speculators, at least in the sense that they carried the movement too far, though export conditions or reports of conditions as regards export buying at that time pointed to a decline in prices. The low level touched in October was more probably chiefly due to the large Canadian crop and the movement for importation of wheat from Canada. Even those men in the grain trade who are friendly to speculation admit that the fluctuations of the market are greater because of the tendency to push things too far, which is followed by a too rapid reaction. Cash prices, however, do not appear to respond to such extreme fluctuations in the futures. In a narrow market, however, it is quite as likely that fluctuations will be caused by large hedging orders as by speculation, especially if the scalpers are afraid to take the other end of heavy selling or buying orders that tend to press the market down or up.

It is probably true that the sharp upward turn in prices occurring at the close of the week of October 15 was due to the announcement of a prospective investigation by the Federal Trade Commission at the request of the President. Short sellers were frightened. They did not want the investigation to disclose that they were short of the market in a purely speculative way. They therefore hurriedly covered some of their short contracts. However, since that date the prices have gone down further than they did prior to that rebound.

The following table shows monthly averages of daily ranges between the high and low prices for certain cash and future prices at Chicago. The table includes corn and oats as well as wheat in order to afford opportunity for comparison of wheat with other grains. As indicating conditions prior to the war, the five-year period from 1911 to 1915 is taken as adequate for purposes of comparison with more recent experience.

TABLE 12.—*Monthly averages of daily ranges (difference in cents between high and low) in prices of wheat, corn, and oats at Chicago, July–October, 1920, compared with corresponding figures for 1911–1915.*

Month.	Wheat.					Corn.			Oats.		
	Cash No. 2 red.	Cash No. 2 hard.	Cash No. 2 northern.	Contract December.	Contract March.	Cash.	Contract December.	Contract May.	Cash.	Contract December.	Contract May.
1920.											
July	[1] 4.5	[1] 5.4	.....	6.9	6.9	7.0	4.0	.....	3.1	2.0	.....
August	4.5	6.9	12.8	6.2	6.2	4.8	2.9	2.0	2.5	1.4	1.0
September	3.3	6.1	10.8	5.2	5.5	4.9	2.8	2.5	1.9	1.3	1.2
October	2.8	4.4	27.8	7.8	7.4	3.6	2.6	2.3	1.3	1.2	1.2
Average	[2] 3.8	5.7	10.5	6.5	6.5	5.1	3.1	2.3	2.2	1.5	1.1
November	7.9	3.9	[1] 4.9	6.6	6.3	5.2	2.5	2.3	1.3	1.6	1.4
1911.			No. 1 northern.		May.						
July	2.17	.....	6.77	1.14	.97	.26	1.30	1.22	[3] .0	1.14	1.16
August	1.58	.....	8.98	1.21	1.11	.25	.76	.75	[3] .0	.63	.68
September	1.56	.....	3.96	.99	.92	.25	.65	.63	[3] .0	.59	.58
October	3.40	.....	2.98	.94	.82	.31	.69	.56	[3] .01	.40	.41
Average	2.18	.....	5.67	1.07	.96	.27	.95	.79	.0	.69	.71
1912.											
July	2.51	.....	4.65	1.34	[4] 1.21	.47	.98	.87	[3] .04	.75	.63
August	2.55	.....	5.67	1.01	.95	.44	.79	.82	[3] .0	.83	.57
September	3.16	.....	2.64	.89	.76	.35	.82	.73	[3] .0	.41	.52
October	3.17	.....	1.93	.88	.80	.34	.57	.44	[3] .0	.35	.34
Average	2.85	.....	3.72	1.03	.93	.40	.79	.72	.01	.59	.51
1913.											
July	1.88	.....	2.70	.84	.52	.25	1.06	.69	[3] .04	.87	.59
August	2.46	.....	1.49	.74	.77	.25	1.23	1.09	[3] .0	.87	.83
September	2.32	.....	1.00	.91	.90	.25	1.07	1.07	[3] .0	.77	.73
October	2.48	.....	.63	.84	.79	.25	.92	.84	[3] .0	.74	.70
Average	2.29	.....	1.46	.83	.75	.25	1.07	.92	[3] .0	.81	.71
1914.											
July	1.25	1.41	1.43	1.82	1.27	.46	1.65	.89	[3] .01	.81	.73
August	2.56	3.26	2.41	3.03	3.12	.38	1.81	1.63	[3] .12	1.40	1.36
September	4.07	4.18	2.15	3.03	3.16	.32	1.47	1.46	[3] .0	1.51	1.52
October	2.82	2.80	1.66	1.70	1.72	.35	.99	.99	[4] .74	.85	.87
Average	2.68	2.91	1.91	2.40	2.32	.38	1.48	1.24	.22	1.14	1.12
1915.											
July	3.97	3.68	6.13	2.07	(1)	.25	.94	(1)	[4] .14	.62	.....
August	5.03	3.24	4.60	1.94	1.51	.40	.80	.84	[7] .08	1.80	.77
September	2.29	1.22	4.32	2.08	1.83	.44	.97	.95	(1)	.49	.53
October	[5] .61	1	3.89	2.66	2.48	.36	1.11	1.03	[3] .0	.79	.69
Average	2.98	2.71	4.74	2.19	1.94	.36	.96	.94	.05	.93	.66
5-year average	2.60	[6] 2.81	3.50	1.50	1.38	.33	1.03	.92	.....	.83	.74

[1] Not more than 10 quotations.
[2] Eleven quotations.
[3] One quotation only for every day except for 3 or less.
[4] One quotation only for more than half the month.
[5] Quotations scattered.
[6] Two-year average.
[7] Quotations for half the month, one day only showing a range.

The range, that is, the difference between the high and low price of the day, is not all due to fluctuation, nor presumably, in the case

of cash grain, mainly due to fluctuation, since any difference in quality is also represented in the range of the latter. The deliverable grade for future contracts, on the other hand, is commercially of constant character—absolutely so until delivery is immediately in prospect—hence the range represents fluctuations only; theoretically, however, including an inappreciable element of upward or downward trend.

The five-year average daily range for wheat futures from 1911 to 1915 was 1.5 cents or less. For the three and one-half months' period, following the reopening of the wheat pit, the corresponding average was 6.5 cents. Some of the difference may be attributed to the difference in price levels. After allowance for this, however, fluctuations are about 50 per cent greater than formerly. There is also a difference between daily ranges for corn futures in the two periods.[9]

With reference to the longer swing of price fluctuations Table 13 is herewith presented showing actual and average monthly ranges for wheat, corn, and oats futures, and cash. In this case, because of the greater importance of the element of trend in the variation for so long a period as one month, as well as with reference to the significance of the magnitude of the base to which the fluctuation relates, low prices are entered in the table alongside of the ranges. The comparisons are for the same periods as are those of the preceding table of daily ranges.

TABLE 13.—*Monthly low prices and monthly range of variation in prices (cents per bushel), at Chicago, July–October, 1920, and 1911–1915.*

A—WHEAT.

Month and year.	No. 2 red.		No. 2 hard.		No. 1 northern.[a]		December.		May.[b]	
	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.
1920.										
July	229.00	56.00	230.00	60.00	237.00	63.00	211.00	64.00	212.50	63.50
August	222.00	40.50	219.00	45.00	240.00	46.00	206.50	41.50	208.00	42.00
September	238.00	23.50	229.75	35.25	228.50	45.50	215.00	34.75	206.00	40.00
October	210.00	29.00	199.00	28.00	196.25	35.25	186.50	35.00	185.50	30.25
Average (4 months)	224.75	37.25	219.44	42.06	225.44	47.44	204.75	43.81	203.00	43.94
November	180.00	44.00	160.75	56.00	158.00	66.00	152.00	58.75	147.00	57.25
1911.										
July	83.50	7.50	.....	.....	93.50	15.00	90.00	4.75	94.25	4.62
August	86.38	5.25	.....	.....	96 00	19.00	93.00	5.00	97.50	6.00
September	89.12	7.88	.....	.....	100.00	12.00	94.38	5.38	100.38	5.12
October	94.25	9.25	.....	.....	108.00	9.00	96.38	6.12	102.00	5.25
Average	88.31	7.47	.....	.....	99.38	13.75	93.44	5.31	98.53	5.25
1912.										
July	97.50	3.00	.....	.....	105.00	11.00	94 50	12.00	99.00	3.88
August	100.00	7.62	.....	.....	95.00	16.00	91.62	4.12	95.25	4.50
September	101.00	6.00	.....	.....	90.50	6.50	89.25	3.38	94.25	2.62
October	102.00	9.00	.....	.....	91.00	6.00	90.38	5.25	95.00	5.50
Average	100.13	6.41	.....	.....	95.38	9.88	91.44	6.19	95.88	4.13

[a] No. 2 northern in 1920. [b] March in 1920.

[9] If the difference between 1920 and the earlier period for corn may be taken as a standard of comparison wheat futures might be expected to show a range for the 1920 December option in the same ratio to the earlier period as that of 1920 December corn to December corn for the earlier period. On this basis, 1920 December wheat should show a range of $\frac{4}{3} \times 1.5$ or 4.5 cents, instead of 6.5 cents. A similar comparison using oats as a standard would show a result even less favorable for wheat.

TABLE 18.—*Monthly low prices and monthly range of variation in prices (cents per bushel), at Chicago, July–October, 1920, and 1911–1915*—Continued.

A.—WHEAT—Continued.

Month and year.	No. 2 red.		No. 2 hard.		No. 1 northern.		December.		May.	
	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.
1913.										
July	84.00	12.00	.....	.....	88.50	6.50	89.25	4.88	94.50	3.00
August	84.00	6.50	.....	.....	89.62	4.62	89.00	3.75	93.75	4.50
September	88.50	7.00	.....	.....	88.00	7.25	86.50	6.25	91.50	6.38
October	87.75	8.75	.....	.....	85.00	5.50	81.75	6.12	86.75	6.00
Average	86.06	8.56	.....	.....	87.78	5.98	86.63	5.25	91.63	4.97
1914.										
July	77.75	17.75	78.25	18.38	88.50	20.50	79.62	20.38	84.38	20.12
August	85.25	30.75	85.25	30.25	94.25	32.75	89.75	27.62	95.00	30.00
September	101.00	22.50	100.00	23.50	108.00	25.00	103.00	21.75	110.25	21.75
October	102.00	14.50	101.75	14.75	105.50	12.00	105.25	12.25	111.25	11.62
Average	91.50	21.38	91.31	21.72	99.06	22.56	94.41	20.50	100.22	20.87
1915.										
July	108.50	23.50	109.00	31.75	132.00	21.75	104.00	9.25	110.75	5.25
August	98.00	21.50	101.00	29.00	108.00	23.00	91.00	18.88	95.75	19.00
September	98.00	21.50	99.50	17.50	99.50	14.50	89.50	8.25	93.00	8.38
October	108.00	12.75	103.25	13.00	99.00	16.50	94.88	14.62	96.75	13.75
Average	103.13	19.82	103.19	22.81	102.50	8.50	92.15	12.75	99.06	11.60
Five-year average for the 4 months	93.83	12.73	[2] 97.25	22.27	109.63	18.94	92.15	10.00	97.07	9.36

B.—COARSE GRAINS.

Month and year.	Corn.						Oats.					
	Cash.		December.		May.		Cash.		December.		May.	
	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.
1920.												
July	140.00	43.50	119.75	38.88	.....	.....	72.00	44.00	67.12	16.38	.....	.....
August	140.00	29.00	116.88	14.88	114.50	17.25	68.00	20.50	65.50	8.12	67.88	7.12
September	119.50	34.50	92.00	31.25	95.00	26.00	55.75	14.75	56.50	10.50	60.00	9.50
October	81.50	28.50	79.25	14.62	85.38	10.75	52.25	5.00	52.38	5.38	57.50	4.75
Average (4 months)	120.25	33.88	101.97	24.91	98.29	18.00	62.00	21.06	60.38	10.10	61.79	7.12
November	67.00	27.50	62.62	22.88	68.75	22.12	46.75	10.00	42.00	13.50	47.00	13.75
1911.												
July	59.75	7.25	59.75	6.25	61.88	6.62	38.50	8.25	42.00	7.25	44.38	7.62
August	62.75	2.50	60.50	3.50	63.00	3.38	39.38	3.12	42.50	3.62	45.38	3.62
September	65.50	3.50	63.12	1.88	65.00	2.00	42.62	3.38	44.75	3.25	47.50	3.00
October	69.50	5.50	62.88	3.88	64.75	2.50	45.12	2.12	46.12	2.25	48.88	2.00
Average	64.38	4.69	61.56	3.88	63.66	3.63	41.41	4.22	43.84	4.09	46.54	4.06
1912.												
July	69.50	5.50	55.50	7.75	56.62	7.12	42.00	15.00	34.00	6.62	36.50	6.25
August	73.50	9.50	53.25	4.62	52.62	6.25	31.00	4.00	31.50	3.12	33.75	3.38
September	68.25	10.75	51.38	4.00	51.25	3.12	34.00	.75	31.50	1.50	33.75	1.50
October	58.50	10.50	51.50	3.00	51.50	1.88	31.00	3.50	31.75	2.00	33.62	1.62
Average	67.44	9.06	52.91	4.84	53.00	4.59	34.50	5.81	32.19	3.31	34.41	3.19
1913.												
July	60.00	6.50	55.88	8.12	57.00	8.62	37.50	4.38	39.75	5.00	42.00	5.12
August	68.50	9.75	63.50	6.88	65.75	5.62	39.50	2.62	43.00	3.50	45.88	3.38
September	71.25	7.00	69.38	4.75	70.75	4.75	40.12	3.25	41.50	4.75	45.00	4.00
October	67.75	5.25	66.25	4.50	68.25	3.75	36.38	4.62	36.75	5.88	40.25	5.62
Average	66.88	7.13	63.75	6.06	65.44	5.69	38.38	3.72	40.25	4.78	43.28	4.53

[2] No. 2 hard 2-year average.

TABLE 13.—*Monthly low prices and monthly range of variation in prices (cents per bushel), at Chicago, July–October, 1920, and 1911–1915*—Continued.

B.—COARSE GRAINS—Continued.

Month and year.	Corn.						Oats.					
	Cash.		December.		May.		Cash.		December.		May.	
	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.	Low.	Range.
1914.												
July	67.50	8.50	53.38	11.88	54.50	12.50	34.62	4.88	35.88	4.50	38.38	4.50
August	74.00	12.00	60.00	14.00	63.25	13.00	33.50	15.25	37.00	15.75	40.62	14.75
September	72.50	10.75	67.00	10.25	69.88	9.88	44.00	7.12	45.50	9.38	48.75	9.38
October	71.50	4.50	66.12	4.50	68.75	4.00	44.75	4.00	46.50	4.62	49.50	4.75
Average	71.38	8.94	61.63	10.16	64.10	9.85	39.22	7.81	41.22	8.56	44.31	8.35
1915.												
July	75.75	6.25	62.75	3.75	65.75	1.25	48.75	10.75	38.50	1.88	42.75	.25
August	75.25	7.00	61.25	4.00	62.38	5.38	46.00	14.00	35.50	7.38	37.62	8.00
September	65.25	12.75	54.62	6.88	56.62	6.25	36.00	2.50	35.25	1.50	37.25	2.12
October	59.75	7.25	53.00	8.12	55.00	6.88	35.75	3.62	35.38	5.50	37.38	3.62
Average	69.00	8.31	57.91	5.69	59.94	4.94	41.63	7.72	36.16	4.07	38.75	3.50
Five-year average for the 4 months	67.82	7.63	59.55	6.13	61.23	5.74	39.03	5.86	38.73	4.97	41.46	4.73

The December future shows an average monthly range of fluctuations in the four months July-October for the five-year period of 10 cents, as compared with 44 cents for the recent period. The figures for the March option as compared with that for May of the earlier period are practically identical, that is, also 44 cents as compared with 10 cents. The difference in price levels does not account for the large figure in 1920. The comparison is also only slightly changed by making allowance for the element of trend in the average range as computed.[10]

The large monthly variation for corn futures in 1920 is chiefly explicable by the downward trend of corn prices. To a less extent this is true of oats. Neither of these grains show so much fluctuation as wheat.

With regard to the character and range of fluctuations since the opening of wheat trading on July 15, it is of interest to compare the situation under an "open market" with what it was during the period of the two preceding crop years when there was a degree of stabilization of prices through wheat purchases and sales by the Government.

As already noted, while the daily range of prices of futures can be ascribed substantially to fluctuation, the like figure for cash prices is to a greater or less extent due to differences in the quality of the grain. Since 1917 wheat has been graded under standards established by the United States Government and the grades may be assumed to be constant. But there are variations within the grade which are recognized in prices paid in the sample market. Moreover,

[10] The element of trend in the result may be computed as follows: For the December option the low of July was 2.11 cents and the low of October 1.86 cents, the difference being 25 cents, one-fourth of which is 6.3 cents, there being left thus a mere fluctuation (44—6.3) of 38 cents per month. A similar elimination of the element of trend in the five-year averages reduces the element of fluctuation from 10 cents to 7 cents. For the March option, taking May as corresponding for the earlier period, the correction for trend gives results substantially identical with that for the December option.

contract wheat at Chicago is No. 2 of these standard varieties. Since January 1, 1919, the annual reports of the Chicago Board of Trade describe the cash quotations compiled for wheat as for No. 2 "or better," the quoted phrase not having been used previously. Whether this means an actual change in the method of compiling the figures has not been ascertained. In 1918, also, only No. 1 northern was "contract," while in 1919, No. 2 northern is deliverable at Chicago without discount. It may be necessary to make allowance for some of these factors in considering the meaning of Table 14, following. Both average daily ranges and monthly ranges are shown in the table, together with certain qualifying data.

TABLE 14.—*Range of fluctuations of prices of cash wheat at Chicago (cents per bushel), July, 1918, to October, 1920.*

A.—DAILY AVERAGE PER MONTH WITH NUMBER OF DAYS SHOWING RANGE.[1]

[All days showing at least two quotations.]

Year and month.	No. 2 red.[2]		No. 2 hard.[2]		No. 1 northern.[2]	
	Number of days.	Average range.	Number of days.	Average range.	Number of days.	Average range.
1918.						
July	17	1.21	9	2.17		
August	17	.81	20	1.11	26	1.94
September	15	.78	15	1.00	22	1.15
October	14	.80	10	.58	24	1.19
November	11	1.34	11	.86	20	1.35
December	4	1.12	7	1.29	22	1.48
6 months	78	.98	72	1.13	114	1.44
1919.						
January	7	2.43	12	2.19	26	4.76
February			5	1.80	22	4.30
March			1	1.00	21	5.02
April			1	4.80	12	5.71
May					19	6.89
June			1	2.00	14	3.64
6 months	7	2.43	20	2.14	114	5.04
July	22	3.52	22	8.25	9	13.44
August	26	3.19	26	6.54	26	20.71
September	25	3.02	25	6.10	25	34.12
October	24	2.73	25	5.02	24	24.19
November	15	2.00	21	7.71	17	19.29
December	4	1.88	16	7.94	16	17.00
6 months	116	2.92	135	6.80	117	23.02
1920.						
January	2	1.50	11	3.73	9	17.67
February	2	3.00	4	3.75	4	6.75
March			6	2.92	1	5.00
April						
May			1	7.00		
June	5	2.80	7	3.43	4	14.00
6 months	9	2.56	29	3.61	18	14.17
July	11	4.27	11	5.00	1	15.00
August	26	4.52	26	6.90	20	12.79
September	19	3.30	25	6.14	22	10.81
October	9	2.75	24	4.41	11	7.80
4 months	65	3.88	86	5.74	54	11.01
November	5	7.90	21	3.86	10	4.93
5 months	70	4.16	107	5.37	64	10.06

[1] These ranges are computed on a somewhat different basis from that used in Table 12, where a day showing a single quotation is counted as having a 0 range. Daily ranges for futures are not affected by this difference of method.

[2] During 1919, No. 2 "or better"; and from January, 1919, No. 2 northern instead of No. 1.

TABLE 14.—*Range of fluctuations of prices of cash wheat at Chicago (cents per bushel), July, 1918, to October, 1920*—Continued.

B.—MONTHLY RANGE AND LOW OF MONTH.

Year and month.	No. 2 red.[3]		No. 2 hard.[3]		No. 1 northern.[3]	
	Low.	Range.	Low.	Range.	Low.	Range.
1918.						
July	223.00	7.00	223.00	7.00	227.00	5.00
August	223.00	2.00	223.00	2.50	226.00	8.00
September	223.00	2.00	223.00	2.50	226.00	3.00
October	223.00	2.00	223.00	1.50	226.00	2.00
November	223.00	3.75	223.00	3.00	226.00	3.00
December	226.50	15.50	223.00	5.00	226.00	5.00
6 months' average	223.58	5.38	223.00	3.58	226.17	4.33
1919.						
January	224.00	21.00	223.00	9.00	223.00	9.00
February	223.00	13.00	223.00	5.00	223.00	7.00
March	.....	.....	228.00	12.00	224.00	33.00
April	258.00	10.00	241.00	4.50	240.00	52.00
May	268.00	10.50	.....	.....	245.00	35.00
June	232.00	14.00	232.00	15.00	228.00	23.00
6 months' average	[4] 241.00	[4] 13.70	[4] 229.40	[4] 9.10	230.50	26.50
July	223.00	6.00	221.00	21.00	229.00	41.00
August	223.00	4.50	221.00	19.00	220.00	38.00
September	223.00	4.50	221.00	14.00	223.00	62.00
October	223.00	4.50	221.50	10.50	242.00	46.00
November	224.00	13.50	228.00	29.50	230.00	92.00
December	238.50	8.50	243.00	22.00	295.00	55.00
6 months' average	225.75	6.92	225.92	19.33	239.83	55.67
1920.						
January	250.00	21.00	255.00	20.00	290.00	60.00
February	238.00	28.00	230.00	12.00	235.00	40.00
March	[5] 255.00	.....	234.00	24.00	250.00	5.00
April	263.00	24.00	265.00	25.00	275.00	30.00
May	283.00	32.00	281.00	27.00	295.00	50.00
June	275.00	25.00	273.00	28.00	280.00	33.00
6 months' average	[4] 261.80	[4] 26.00	256.33	21.83	270.83	36.33
July	229.00	56.00	230.00	60.00	237.00	63.00
August	222.00	40.50	219.00	45.00	240.00	46.00
September	238.00	23.50	229.75	35.25	228.50	45.50
October	210.00	29.00	199.00	28.00	196.25	35.25
November	180.00	44.00	160.75	56.00	158.00	66.00
5 months' average	215.80	38.60	207.70	44.85	211.95	51.50

[3] During 1919, No. 2 "or better"; after January, 1919, No. 2 northern instead of No. 1 northern.
[4] Five months.
[5] Single quotation.

The scantiness of the quotations frequently impairs the significance of the figures. This applies especially for the first half of the calendar year. It happens, however, that comparisons with the latter half of the calendar year are most significant for present purposes. Averages (all in cents) for these periods are as follows:

Period.	Red.	Hard.	Northern.
Daily averages:			
July–December, 1918	0.98	1.13	1.44
July–December, 1919	2.92	6.80	23.02
July–October, 1920	3.88	5.74	11.01
Monthly averages:			
July–December, 1918	5.38	3.58	4.33
July–December, 1919	6.92	19.33	55.67
July–October, 1920	37.25	42.06	47.44
Monthly averages corrected for trend:			
July–December, 1918	4.8	3.58	4.2
July–December, 1919	4.3	15.7	48.0
July–October, 1920	32.5	34.3	37.2

There is an improvement in 1920 over the previous year as regards monthly fluctuations for northern spring and as regards daily fluctuations for hard winter. But 1918 shows markedly better results than either 1919 or 1920 in all cases.

The situation as regards northern spring wheat may be explained largely by the quantity and quality of the spring wheat crop. The crop was poor in both 1919 and 1920, and poorest in 1919. Millers' needs have often caused a special demand for hard spring wheat. The millers were probably, also, especially desirous of getting premium hard winter wheat in 1919. As already indicated, the range of apparent fluctuations for cash wheat may be largely due to difference of quality, and it has also been noted there was a change as between 1918 and 1919 from No. 1 to No. 2 northern. Chicago receives much less spring than winter wheat, and the fluctuations may be to some extent due to irregularities of supply.

Altogether, the evidence of these figures does not suggest that future trading has a stabilizing influence on cash prices, though the evidence of an opposite effect is not uncontrovertible.

There are, of course, other factors besides the mere range of fluctuations to be considered in comparing wheat with other grains. It is possible that the wheat crop, as a whole, is less uncertain and more predictable, or vice versa, than that of the other grains, and, if so, this situation has an important bearing on the comparative showing of the grains as regards fluctuations in prices. The spring wheat crop considered by itself is an uncertain quantity, so that estimates made early in the season, for instance on July 1, when the winter wheat crop is already coming on the market, are subject to considerable change as the season advances. A table previously presented shows how the situation as regards the intrinsic uncertainty of the spring-wheat crop is reflected in the estimate of prospective yields made by the Department of Agriculture.

On the whole, however, it is evident that the wheat futures market of 1920 has shown a degree of violence as regards its price fluctuations which can only be interpreted to mean that it is not functioning well.

Short selling may be used to bring about a downward movement in prices, and, when there is an extreme fluctuation downward, the short sellers are often responsible for it. For this reason, and for the reason that short selling is believed in general to have a depressing effect on prices, it is frequently condemned, though many forget that whoever sells short must buy in later on. Short selling may bring down the price a little more quickly than would be likely without such speculation.

In certain respects present conditions are not favorable to short selling. For example, one grain-trade man says that the fact that there is only 30,000,000 bushels visible supply this year as compared with 90,000,000 bushels last year means that there can be no considerable volume of short speculation. Another argument to the effect that there is at present comparatively little short speculation in wheat emphasizes the fact that the bears were prematurely stimulated last spring when prices nevertheless went to very high levels, and that, as a result of their mistake at that time and the resulting losses, they have not the resources or the courage to speculate largely at present.

Section 13. The question of price manipulation.

The course of wheat future prices since the opening of the market might readily be interpreted as evidence of manipulation. There have been very sharp fluctuations, and there has been a very pronounced downward tendency. The downward tendency may be attributed to developments affecting the so-called "statistical position" of wheat, but the extreme fluctuations can not be explained away so easily. Their explanation involves the establishment in some degree of inefficiency and bad functioning on the part of the market, or extraordinary uncertainty regarding market conditions.

Such apparent indications of manipulation as may be seen in the extreme fluctuations of wheat prices, however, are otherwise explicable. With a narrow volume of trading in futures a hedging order may have as pronounced a temporary effect upon prices as a large speculative order. Hedging sales also may appear in large volume and may put down the market as much as speculative sales. It is doubtless true that the wheat market has been relatively narrow and more than usually susceptible to influences. These influences might be manipulative or they might be accidental.

The best known and most sensational method of manipulating prices by way of futures is the corner. This is a technical use of the rules and conditions of future trading by which a certain trader or group of traders are able to put up prices against other traders, that is, against short sellers, and compel them to settle at almost any price the cornerer chooses to exact. While there are rules and policies of the Chicago Board of Trade and other exchanges designed to prevent manipulation by way of corners, they still occur, though comparatively infrequently.

It is worth noting that there was something like a corner in September corn in 1920. This condition was due to the Armour Grain Co. standing for delivery on a large quantity of corn futures purchased. The situation can be read in the curves of Diagram 4, facing page 70.

The significant comparison of the curves in this diagram is that between cash prices and prices for September delivery. During August the price of cash corn remained considerably above that of the September future. With the entrance upon the delivery month the spread narrowed and the curves are very close together during most of this month, and practically coincident during the latter part. This relationship is normal, except as regards the degree of the spread in August. The sharp and steady decline in prices from the latter part of August to the close of September is not what is to be expected in connection with a corner or squeeze. So much so, indeed, that these terms can scarcely be applied without qualification to the situation under consideration. Short sellers of corn in August were able to get out at a considerable profit at almost any time in September. If a short seller wished to make delivery, he could purchase the cash corn for less than the price at which he had previously sold the future, thus making a profit by his speculation. Actually, some men in position to make deliveries of cash corn were willing to sell in the delivery month in the expectation of bringing the corn in from the country for delivery. If the September price was made abnormally high or kept high by the dominant long interest, there

was certainly no profit accruing to it from contracts made earlier in the season. The evidence of an abnormal condition related to that which results from a corner is to be looked for, however, in the comparative prices of corn before and after the close of the delivery month. Here the evidence is very definite that there was an abnormally high price for the September future just before it expired. On September 30 prices were around $1.28. The following day they dropped to $1.02; and on the 5th day of October they went down to below 93 cents. What happened, therefore, was that the dominant long interest lost much less than it would have lost if the price had been allowed to sag as general conditions indicated.

The abnormality of prices for the September delivery, and for cash corn at the terminal market, is also indicated by the nearly level price, though sharply fluctuating, during the last 10 days of September, this level condition being maintained during a period when the May and December futures were dropping from a price of $1.10 to 95 cents a bushel. In general, with the exception of these last 10 days of September, the various future prices run a parallel course, with December and May about 20 cents under September. At the close of September, however, the spread between December and September had widened to about 30 cents. It should be noted that December and May are new crop futures, while September deliveries must be made with the old crop corn. The situation may be summed up by a statement to the effect that all the conditions of a corner were present, except that the cornering interest could not make a profit because of the very pronounced tendency to a decline in the price of corn from shortly before the delivery month through it and into October. Prices in this connection must be therefore interpreted relatively and not absolutely, and the usual result of a positive profit to the cornering interest (leaving out of account the question of what is to be done with the grain delivered during the corner) did not develop. The imperfection of the existing technique of future trading is none the less evident.

A sort of manipulation of wheat prices, involving futures, though not done directly by way of futures, is alleged by grain men to have occurred. It is said that foreign buyers or the exporters representing them have deliberately abstained from using futures on the buying side, as would be natural, in order to let prices decline of their own weight. It is said that exporters have not hedged export sales, because they preferred to speculate for the decline in the cash grain. The spasmodic character of foreign buying has been in effect manipulation. It is possible that foreign buyers have deliberately emphasized their withdrawal, or apparent withdrawal, in order to depress prices, thus enabling them to buy at a less rate. It is said also that they abstained from buying futures because their orders could be more easily traced there, and have instead bought cash grain in car lots, where it is less easy to trace their operations and form an opinion of the volume they are purchasing. These matters have been discussed with reference to the general characteristics of foreign buying in a previous section of the report. (Sec. 4.)

Another possible method of manipulating prices by way of futures is definitely an affair of the futures market and a device of speculators. A future trader who has the financial resources and the will to conduct large operations after the manner of the "plunger" may

depress prices by conspicuous sales, and then cover inconspicuously before the effects of his raid on the market have been overcome. This sort of thing may or may not be accompanied by a deceptive use of rumors.

At Chicago two men are mentioned as active in wheat futures since the opening of the market in a way that might by the general public be interpreted to be manipulative, in the sense that the "plunger's" trading may be so regarded. The Commission has obtained data of the trades of one of these men which are set forth in the following table. Prices of the futures and their range by days are shown in the table alongside of the transactions and resulting open trades:

TABLE 15.—*Transactions in Chicago wheat futures by one large operator in 1920.*

DECEMBER WHEAT.

[Thousands of bushels.]

Month.	Low price of day.	Range of prices of day.	Bought or sold.[1]		Net bought or sold, cumulated (open interests).	
July 31	$2.11	$0.09	S	50	S	50
Aug. 2	2.0650	.0850	B	50		
3	2.17	.13				
4	2.16	.14	S	20	S	20
5	2.28	.17	B	20		
6	2.36	.12				
7	2.30	.05				
9	2.3125	.0475				
10	2.31	.0875				
11	2.37	.0350	B	50	B	50
12	2.3950	.06	B	50	B	100
13	2.41	.0550			B	100
14	2.38	.04	S	100		
16	2.3550	.04				
17	2.36	.0350				
18	2.3850	.0325	S	50	S	50
19	2.37	.0350	S	100	S	150
20	2.34	.03	S	50	S	200
21	2.3175	.0675	S	200	S	400
23	2.2575	.0675	S	50	S	450
24	2.2525	.0675			S	450
25	2.3250	.0250			S	450
26	2.32	.03			S	450
27	2.3350	.0550			S	450
28	2.36	.02			S	450
30	2.33	.0375			S	450
31	2.31	.04			S	450
Sept. 1	2.3350	.03			S	450
2	2.3425	.0625	B	950	B	500
3	2.39	.07	B	200	B	700
4	2.39	.03	B	300	B	1,000
7	2.38	.0350	B	200	B	1,200
8	2.4175	.0425	B	500	B	1,700
9	2.46	.03	B	300	B	2,000
10	2.45	.0225			B	2,000
11	2.46	.0150			B	2,000
13	2.4750	.0225	B	100	B	2,100
14	2.3975	.0925	S	2,100		
15	2.39	.0375				
16	2.3625	.0525				
17	2.38	.0550				
18	2.40	.0350				
20	2.3775	.0250				
21	2.3150	.0850				
22	2.28	.09	B	95	B	95
23	2.34	.03	S	95		
24	2.25	.0975	S	1,000	S	1,000
25	2.18	.0550	S	400	S	1,400
27	2.15	.10	B	1,400		
28	2.19	.05	S	600	S	600
29	2.2250	.0350			S	600
30	2.1550	.1050	S	1,400	S	2,000

[1] Transactions as given each day were all bought or all sold with three exceptions, when purchases and sales are shown separately in a brace.

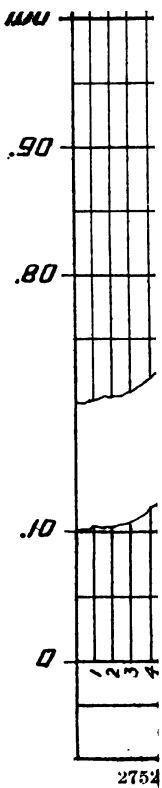
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TABLE 15.—*Transactions in Chicago wheat futures by one large operator in 1920*—Continued.

DECEMBER WHEAT—Continued.

Month.	Low price of day.	Range of prices of day.	Bought or sold.	Net bought or sold, cumulated (open interests).
Oct. 1	$2.08	$0.08	S 900	S 2,900
2	2.06	.0775	.....	S 2,900
4	1.95	.1050	S 400	S 3,300
5	1.8650	.1350	.....	S 3,300
6	1.9150	.0850	B 3,300	.....
7	1.97	.0725	.....	.....
8	1.91	.0850	.....	.....
9	1.93	.06	B 1,000	B 1,000
11	2.00	.09	B 400	B 1,400
13	2.05	.07	S 1,400	.....
14	2.0425	.0725	S 1,200	S 1,200
15	2.0525	.1525	B 800	S 400
16	2.1225	.0925	S 1,200	S 1,600
18	2.0725	.07	B 700 S 500	S 1,400
19	2.0425	.0475	.....	S 1,400
20	2.0225	.0675	S 800	S 1,600
21	1.9550	.09	.....	S 1,600
22	1.93	.1025	S 400	S 2,000
23	1.99	.0550	.....	S 2,000
25	1.9725	.0475	.....	S 2,000
26	2.0050	.0975	.....	S 2,000
27	2.0562	.0662	.....	S 2,000
28	2.03	.06	.....	S 2,000
29	2.0750	.0450	.....	S 2,000
30	2.0825	.0250	.....	S 2,000
Nov. 1	2.07	.0375	.....	S 2,000
3	2.0550	.0475	.....	S 2,000
4	2.0025	.0625	.....	S 2,000
5	1.98	.03	.....	S 2,000
6	1.8875	.0775	S 390	S 2,390
8	1.8250	.0675	S 300	S 2,690
9	1,77	.1125	S 200	S 2,890
10	1.78	.09	.....	S 2,890
11	1.7850	.0850	.....	S 2,890
12	1.75	.0550	.....	S 2,890
13	1.7875	.0475	.....	S 2,890
15	1.7850	.0675	.....	S 2,850
16	1.8425	.05	.....	S 2,890
17	1.82	.08	B 1,000	S 1,890
18	1.7875	.0775	B 1,350	S 540
19	1.71	.0850	B 625 S 500	S 415
20	1.6575	.0825	B 415	.....
22	1.5750	.03	.....	.....
23	1.5850	.11	.....	.....
24	1.5875	.0825	S 500	S 500
26	1.52	.0550	.....	S 500
27	1.53	.0450	.....	S 500
29	1.56	.06	.....	S 500
30	1.5475	.0375	.....	S 500
Dec. 1	1.5550	.095	B 500	.....
2	1.65	.075	.....	.....

MARCH WHEAT.

Aug. 21	$2.3350	$0.06	S 50	S 50
23	2.26	.0750	S 150	S 200
24	2.24	.07	.....	S 200
25	2.2950	.0450	.....	S 200
26	2.2650	.04	.....	S 200
27	2.28	.0450	.....	S 200
28	2.31	.02	.....	S 200
30	2.29	.03	.....	S 200
31	2.28	.03	.....	S 200
Sept. 1	2.2950	.0250	.....	S 200
2	2.30	.0725	B 200	.....
3	2.35	.06	.....	.....
4	2.3550	.0250	.....	.....
7	2.35	.0350	.....	.....
8	2.39	.0350	.....	.....
9	2.4250	.0350	.....	.....
10	2.41	.0250	.....	.....

TABLE 15.—*Transactions in Chicago wheat futures by one large operator in 1920*—Continued.

MARCH WHEAT—Continued.

Month.	Low price of day.	Range of prices of day.	Bought or sold.	Net bought or sold, cumulated (open interests).
Sept. 11	$2.42	$0.01		
13	2.4375	.0150		
14	2.35	.09		
15	2.3150	.0575		
16	2.31	.05		
17	2.33	.07		
18	2.35	.04		
20	2.33	.0225		
21	2.2650	.0850		
22	2.23	.07		
23	2.26	.0350		
24	2.15	.0975		
25	2.06	.0750		
27	2.0850	.1150		
28	2.13	.07		
29	2.16	.04		
30	2.10	.11		
Oct. 1	2.0350	.07		
2	2.02	.07		
4	1.91	.15		
5	1.8550	.1250		
6	1.8950	.08		
7	1.94	.06		
8	1.8850	.0650		
9	1.8950	.0625		
11	1.9650	.07		
13	2.0050	.0650		
14	2.00	.0625		
15	2.0075	.1425		
16	2.0650	.0925		
18	2.01	.0450		
19	1.93	.0750	S *300*	S *300*
20	1.94	.0550		S *300*
21	1.8775	.0925		S *300*
22	1.87	.0950		S *300*
23	1.9250	.0375		S *300*
25	1.9025	.0525		S *300*
26	1.9375	.09		S *300*
27	1.9975	.0525		S *300*
28	1.97	.06		S *300*
29	2.01	.0425		S *300*
30	2.02	.0250		S *300*
Nov. 1	1.99	.0525		S *300*
3	1.9725	.0575		S *300*
4	1.9375	.0325		S *300*
5	1.93	.0275		S *300*
6	1.8525	.0675		S *300*
8	1.81	.0450		S *300*
9	1.75	.0925		S *300*
10	1.7475	.0675		S *300*
11	1.7250	.0850		S *300*
12	1.6750	.0550		S *300*
13	1.70	.05		S *300*
15	1.6925	.0650		S *300*
16	1.75	.0450		S *300*
17	1.7175	.0725		S *300*
18	1.67	.0625		S *300*
19	1.6250	.0575	B 500 S *200*	
20	1.57	.0875		
22	1.5250	0950		
23	1.5450	.0975		
24	1.5250	.0950	S *2,500*	S *2,500*
26	1.47	.0425	S *500*	S *3,000*
27	1.4750	.06		S *3,000*
29	1.5250	.0550		S *3,000*
30	1.50	.05		S *3,000*
Dec. 1	1.495	.07	B 2,000	S *1,000*
2	1.57	.0950	B 1,000	

The maximum quantity of sales of December wheat in a single day by this speculator during the period included was 2,100,000 bushels on September 14; and of March wheat 2,500,000 bushels on October 24. The December wheat sales were not short sales,

however, being made to cover open bought trades. The March wheat item was the foundation of a short interest of 3,000,000 bushels held open for about one week. The maximum quantity purchased in a single day was 3,300,000 of December wheat on October 6. These transactions also were to close out open trades, in this case a short line. The range of prices was considerably larger than usual on all three days, but these were not days of extreme ranges.

As regards the side of the market on which the trades of this speculator were open, it alternated. In December wheat he was short a trifling quantity on July 31 and August 4; long a small quantity from August 11 to August 13; short from August 18 to September 1; long from September 2 to September 13; slightly long on September 22 and short on the 24th and 25th; short from September 28 to October 5; long on October 9 to 11; and then consistently short from the middle of October to November 19. In March wheat he has been less active and has been on the short side consistently, but for considerable periods without any open interest. Although this trader was reputed in the gossip to be on the short side consistently, it is evident that he was partly on the short side and partly on the long side, though more often short than long.

The volume of his transactions in a single day has amounted to a large fraction of the total trading as indicated by the average per day for the month. For example, the average of 7,840,000 bushels of wheat futures traded in per day in September may be compared with this trader's sale of 2,100,000 bushels on September 14.

In connection with recent trading at Chicago an error trade was made in the wheat pit, which was the subject of sensational reports in the newspapers and to which was attributed an artificial depression of prices. The facts in this case were ascertained by an examiner of the Commission while in Chicago, and are substantially as follows:

A 1,000-bushel order was mistaken by an inexperienced pit trader for a 1,000,000-bushel order. Sales for the greater part of 1,000,000 were made before the selling was stopped, prices ranging between $1.93 and $1.91. This was on October 8, and the range of prices for the day was: High, $1.99½; low, $1.91. It appears that these sales probably did help to cause the low of the day to be reached, but they were a minor factor in the range. In making repurchases to correct the error, prices paid on that day were from $1.91½ up to 195, and some was purchased on the next day at 198¼. The opening price of October 8 was 199 to 199½ and the close 193½ to 194. The forces operating to put prices down during the day were strong enough to overbalance the correction of the error. The error evidently operated on the whole to put the price up rather than down.

An effort was made by the Federal Trade Commission to get more adequate information as to the importance and possible influence of large traders upon Chicago wheat futures market. An attempt was made to get the Chicago Board of Trade officers and directors to cooperate in procuring significant facts as to the operation of large traders, both hedgers and others. In order to limit the amount of work involved, the request was confined to information with regard to accounts showing an open interest at one time or another of 100,000 bushels or more. If this open interest could be affirmed, according to the best knowledge of the commission house concerned, to be hedging, a statement to that effect, together with the dates and the quantities carried open for these various accounts, was all that was asked for

in relation to large hedges. For large speculators showing an open interest of 100,000 or more at any time, the request was made that data of quantities bought and sold, with dates and prices of transactions for the account, be furnished the Commission. The Commission did not ask that the names of any customers be disclosed. The correspondence with regard to this matter, all of which was conducted by telegraph, is appended in a footnote.[11] It will be noted that the statement is made in one of the Commission's telegrams that the officers of the Chicago board have obtained similar information from commission houses for their own purposes from time to time, and the correctness of this statement is not denied.

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[11] The telegraphic correspondence referred to is given verbatim as follows:

WASHINGTON, *October 30, 1920.*

President, Secretary, Directors of the Chicago Board of Trade, Chicago, Illinois.

The Commission would like you to assist it in obtaining data relative to all important open interests in wheat futures since July fifteenth for any individuals or corporations stop please wire reply.

MURDOCK,
Chairman, Federal Trade Commission.

CHICAGO, *November 1st, 1920.*

VICTOR MURDOCK,
Chairman, Federal Trade Commission, Washington, D. C.

What assistance do you desire stop records showing transactions are the private property of individuals firms and corporations.

L. F. GATES,
Prest. Chicago Board of Trade.

WASHINGTON, *November 1st, 1920.*

L. F. GATES,
President Chicago Board of Trade, Chicago, Illinois.

Commission wishes to know extent of each short or long open interest of one hundred thousand bushels or more in each wheat option with dates and whether a hedge or not according to best information of commission house stop if not a hedge option ledger statement for that account.

VICTOR MURDOCK,
Chairman, Federal Trade Commission.

CHICAGO, *November 3rd, 1920.*

VICTOR MURDOCK,
Chairman, Federal Trade Commission.

Your telegram explains what information Commission desires stop suggest you seek information from members possessing it.

L. F. GATES,
Pres. Chicago Board of Trade.

WASHINGTON, *November 3, 1920.*

L. F. GATES,
President, Chicago Board of Trade, Chicago, Ill.

Your suggestion that information on open trades in wheat futures be procured directly from members impracticable as such request would not necessarily secure the data or at least not obtain it in a reasonable time stop. It is understood that officers have obtained similar information regarding open trades for own administrative purposes stop why cannot directors procure or assist on procuring data of large open interests in wheat futures on request of Commission.

VICTOR MURDOCK,
Chairman, Federal Trade Commission.

CHICAGO, *November 4, 1920.*

VICTOR MURDOCK,
Chairman Federal Trade Commission, Washington, D. C.

We have no such data as you suppose and if we had we could not divulge it without permission of individual firms and corporations for all reports obtained by executive officers are secured under pledge to keep information confidential as bulletins in your files will show stop we have called for only one wheat report since trading opened in July and that was as of close of business last day of August stop powers of officers and directors are limited by rule and we cannot arbitrarily demand from members their confidential records and turn them over to you or to any other body however much we may wish to help you in this investigation stop will gladly come to Washington if you desire for conference on this matter stop. Attempted to consult with Watkins and Hawes before sending message yesterday but found neither one in Chicago.

L. F. GATES,
President, Chicago Board of Trade.

WASHINGTON, *November 5, 1920.*

L. F. GATES,
President Chicago Board of Trade, Chicago, Illinois.

In view of the facts stated in your telegrams with reference to data regarding volume of open trades in wheat futures see no purpose in your coming to Washington for a conference unless you are able to suggest some other method of obtaining information than those already offered by you.

VICTOR MURDOCK,
Chairman, Federal Trade Commission.

Section 14. Transportation conditions.

Transportation conditions in the United States since the fall of 1919 have had an important relation to the trend of the price of wheat. During the winter and spring months shortages of grain cars coupled with strikes and labor unrest, bad weather, and enormous increases in the volume of general traffic, resulted in serious delays on shipments and temporary shortages of wheat at various points. The uncertainty of making delivery on contract time both at primary markets and seaboard terminals occasioned greater risks and caused wider trading margins. Buyers were forced to get their supplies at terminal markets.

Car shortages were most acute in the country generally from November, 1919, through August, 1920. Most traders attribute the large carry-over on July 1 to inability to move the crop—especially in the Southwest—during the winter and spring months, and not to lack of demand or to holding back from the market. It was reported that even in July, 1920, there were no empty grain cars in western Kansas.

In the Northwest it is reported that the car shortage problem was most acute during November and December of 1919, and February, March, April, and May of 1920. Northwestern roads were about 25 per cent short (on the basis of box cars owned) from May 1 to July 15. It is stated that during February, March, April, and May of 1920 the country elevators of the Northwest generally were filled to capacity with no available equipment in sight. During the month of May, 1920, 619 elevators in the three States of Minnesota, North and South Dakota received in the aggregate 1,318 cars for loading grain. Reports showed variations of from 1 to 9 cars received during the month, while some elevators received none and gave up making requisitions. The strike of railroad men early in April, 1920, affected deliveries on eastern shipments from Minneapolis for over five months.

General opinion along the Atlantic seaboard is that car shortages and uncertain deliveries resulting therefrom widened the spread between seaboard and Chicago prices by fully 10 cents, and that the marked improvement in transportation conditions in September had narrowed the margin by this amount. The average spread for Philadelphia track prices over Chicago December from August 24 to September 7 was $0.354; September 8 to September 30, $0.276.

The following figures of car shortages (deferred requisitions), including reports of average daily car shortages by 12 railroads[12] in producing territory, indicate the trend of transportation conditions during the year 1919–20.[13]

Average daily car shortage for the week (total for 12 roads).

Week ending—		Week ending—	
Aug. 31, 1919	9,766	Apr. 30, 1920	14,212
Sept. 30, 1919	13,862	June 1, 1920	18,398
Oct. 31, 1919	12,612	July 1, 1920	18,574
Nov. 30, 1919	11,449	July 31, 1920	15,027
Dec. 31, 1919	13,880	Aug. 31, 1920	18,392
Jan. 31, 1920	18,716	Sept. 30, 1920	13,700
Feb. 28, 1920	10,838	Oct. 23, 1920	8,572
Mar. 31, 1920	14,260		

[12] Wabash; Chicago & North Western; Chicago & Great Western; Chicago, Milwaukee & St. Paul; Chicago, Milwaukee, St. Paul & Omaha; Great Northern; Northern Pacific; Atchison, Topeka & Santa Fe; Chicago, Burlington & Quincy; Union Pacific; and Chicago, Rock Island & Pacific.

[13] Reports of the American Railway Association relating to car supplies.

The figures above relate to roads operated in the producing areas, and consequently do not reflect certain improvements in car supply in eastern territory prior to September, 1920. From these figures and from numerous reports from dealers it is clear that domestic transportation conditions during the marketing period for the crop of 1919–20 were a considerable factor in the enhancement of the price of wheat. Trade opinion is that transportation conditions, resulting in the large carry-over in July, 1920, paved the way for a sharp decline in price as soon as deliveries should become more reliable. The movement of grain at present is probably freer from transportation difficulties than at any time since the outbreak of the war. Due mainly to the slackness of business in general, some western roads now have a surplus of cars for the first time in several years. Grain exporters on the seaboard can count on deliveries from the Central West in about 15 days. Over identical routes wheat now reaches Chicago in less than two weeks against from three to six weeks prior to July 1. The supply of cars in the Northwest was still inadequate (for the most part on the Great Northern) even into October, but this condition seems to be nearly eliminated.

In summary, there were during 1919–20 recurrent transportation troubles due to causes which do not exist to any appreciable extent at the present time. The factor of *position* in the purchase and marketing of wheat is no longer so important. And the transportation situation at present creates no extraordinary demand at any one point. Conditions as regards transportation which operated to sustain prices at terminal markets well into August, 1920, no longer exist.

Section 15. Stocks, crop movement, and prospective needs.

A convenient starting point in the consideration of stocks of wheat on hand and their rate of accumulation and depletion is the so-called "visible supply." The visible-supply figures most commonly used in the grain trade are described as follows:

> Grain in regularly authorized warehouses at prominent grain centers of the United States east of the Rocky Mountains, including the quantities afloat on the lakes and the Erie Canal, presenting the visible supply of grain in the United States not disposed of with reference to ultimate destination but easily obtainable to influence the markets or to supply any unexpected demand.[14]

The supply in the country, whether in the hands of farmers or of country elevators or of country mills, as well as grain on track and in transit by rail, is counted "invisible." Changes in the visible supply of wheat by weeks for the period since July, 1912, are presented in Diagram 5 (facing p. 80), the respective figures being given in Table 16.

[14] Annual report of the Chicago Board of Trade for 1919, p. 130.

TABLE 16.—*Visible supply of wheat in the United States east of the Rockies, by weeks, 1912–1920.*

[Thousands of bushels.]

1912		1913		1914		1915		1916		1917		1918		1919		1920	
Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.
JANUARY.																	
6	69,706	4	71,902	3	74,266	2	76,580	1	92,123	6	77,781	5	17,552	4	119,711	3	75,363
13	67,110	11	72,662	10	72,979	9	73,774	8	90,117	13	75,470	12	17,363	11	123,700	10	70,961
20	64,872	18	72,163	17	71,352	16	69,645	15	87,592	20	72,257	19	16,262	18	126,358	17	66,089
27	63,270	25	69,214	24	69,657	23	66,484	22	85,244	27	68,435	26	15,127	25	128,671	24	63,182
				31	67,706	30	63,013	29	82,508							31	60,359
FEBRUARY.																	
3	62,121	1	68,063	7	66,114	6	59,503	5	79,077	3	66,604	2	13,869	1	130,613	7	58,234
10	61,221	8	68,256	14	64,737	13	56,175	12	76,975	10	64,880	9	12,643	8	129,302	14	55,212
17	59,707	15	67,735	21	63,636	20	54,184	19	74,271	17	63,901	16	11,818	15	126,194	21	53,396
24	59,343	22	66,772	28	61,576	27	51,843	26	72,006	24	59,130	23	10,547	22	121,206	28	50,875
MARCH.																	
2	60,064	1	66,757	7	60,656	6	49,801	4	71,751	3	59,662	2	9,739	1	118,219	6	50,168
9	59,712	8	66,331	14	59,760	13	47,564	11	70,671	10	56,240	9	8,949	8	115,529	13	48,414
16	59,370	15	65,613	21	57,820	20	45,696	18	68,240	17	52,767	16	7,750	15	111,582	20	47,067
23	58,890	22	63,979	28	56,764	27	44,620	25	64,936	24	50,465	23	6,521	22	101,946	27	45,896
30	57,643	29	62,621							31	49,610	30	5,381	29	92,546		
APRIL.																	
6	57,625	5	60,488	4	55,148	3	41,547	1	63,815	7	47,363	6	4,695	5	85,081	3	44,787
13	56,112	12	59,155	11	53,651	10	40,461	8	63,062	14	43,145	13	3,465	12	77,015	10	44,281
20	54,453	19	56,773	18	52,142	17	35,534	15	59,872	21	38,254	20	3,199	19	70,745	17	42,416
27	51,296	26	54,372	25	49,166	24	30,860	22	56,796	28	33,207	27	2,777	26	61,323	24	42,969
								29	56,050								

TABLE 16.—*Visible supply of wheat in the United States east of the Rockies, by weeks, 1912–1920*—Concluded.

1912		1913		1914		1915		1916		1917		1918		1919		1920	
Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.	Day of month.	Quantity.
							MAY.										
4	47,638	3	51,625	2	45,521	1	27,779	6	54,738	5	32,143	4	2,194	3	49,502	1	42,784
11	43,296	10	51,777	9	40,246	8	27,033	13	54,077	12	33,080	11	1,872	10	42,218	8	40,849
18	39,350	17	49,514	16	35,451	15	26,352	20	54,836	19	30,173	18	1,566	17	33,736	15	38,942
25	37,868	24	46,509	23	33,529	22	23,217	27	53,889	26	26,478	25	1,533	24	27,615	22	38,097
		31	43,853	30	32,070	29	20,857							31	23,702	29	37,101
							JUNE.										
1	36,543	7	39,644	6	29,341	5	19,532	3	53,801	2	28,896	1	1,146	7	15,826	5	35,259
8	34,192	14	37,010	13	24,911	12	15,979	10	53,882	9	23,858	8	821	14	13,439	12	31,952
15	30,573	21	35,149	20	19,776	19	13,937	17	51,223	16	20,142	15	509	21	11,387	19	28,558
22	28,214	28	33,459	27	15,598	26	10,817	24	48,912	23	15,639	22	563	28	8,681	26	24,034
29	25,819									30	14,209	29	785				
							JULY.										
6	24,022	5	32,407	4	13,616	3	8,232	1	48,391	7	12,637	6	554	5	6,708	3	19,799
13	22,476	12	30,988	11	15,578	10	7,590	8	47,458	14	9,984	13	925	12	5,297	10	18,382
20	20,398	19	30,826	18	18,778	17	5,809	15	44,973	21	9,621	20	3,574	19	6,482	17	16,149
27	20,482	26	34,510	25	24,289	24	5,416	22	44,232	28	6,890	27	8,169	26	13,255	24	16,616
						31	6,630	29	45,140							31	17,487
							AUGUST.										
3	20,600	2	38,873	1	30,036	7	7,450	5	49,516	4	5,819	3	17,155	2	20,903	7	19,534
10	19,438	9	42,486	8	34,908	14	7,574	12	54,105	11	5,218	10	23,461	9	32,093	14	20,653
17	19,441	16	45,396	15	34,223	21	8,115	19	57,638	18	4,843	17	32,756	16	39,846	21	19,695
24	19,849	23	45,449	22	33,214	28	7,139	26	58,424	25	4,399	24	42,175	23	48,920	28	19,354
31	20,214	30	44,855	29	31,756							31	48,821	30	56,828		

SEPTEMBER.

7	23,181	6	45,330	5	30,101	4	7,790	2	60,570	1	5,058	7	56,606	6	63,309	4	20,758
14	27,097	13	46,741	12	31,872	11	8,596	9	60,296	8	5,680	14	67,464	13	70,125	11	22,618
21	30,430	20	49,794	19	37,018	18	10,738	16	59,329	15	5,760	21	79,531	20	77,677	18	24,885
28	31,915	27	49,433	26	46,170	25	11,749	23	61,311	22	6,856	28	90,623	27	81,683	25	26,344
								30	62,104	29	7,789						

OCTOBER.

5	32,956	4	53,259	3	52,301	2	16,754	7	62,627	6	7,803	5	96,886	4	84,909	2	27,391
12	34,788	11	57,835	10	58,329	9	19,355	14	63,690	13	9,596	12	104,494	11	90,607	9	28,801
19	37,438	18	60,697	17	61,288	16	22,736	21	66,059	20	9,712	19	107,512	18	93,783	16	32,133
26	40,229	25	58,828	24	64,701	23	24,942	28	67,114	27	14,524	26	113,490	25	95,314	23	34,411
				31	67,470	30	30,192									30	35,500

NOVEMBER.

2	43,991	1	61,880	7	70,280	6	38,792	4	67,953	3	14,908	2	122,604	1	96,352	6	39,350
9	47,961	8	63,487	14	76,020	13	44,261	11	68,811	10	17,630	9	128,095	8	95,797	13	41,306
16	55,073	15	66,269	21	78,032	20	51,323	18	71,292	17	19,564	16	136,809	15	96,136	20	39,824
23	59,594	22	66,301	28	76,418	27	57,352	25	71,990	24	21,213	23	127,551	22	92,906	27	43,149
30	59,762	29	67,140									30	121,561	29	89,742		

DECEMBER.

7	65,864	6	72,127	5	74,906	4	60,838	2	71,437	1	21,031	7	113,297	6	87,250	4	[1] 43,127
14	67,525	13	71,741	12	80,498	11	57,259	9	68,250	8	25,672	14	111,255	13	85,084		
21	67,928	20	74,604	19	79,284	18	90,583	16	85,024	15	25,361	21	113,803	20	82,698		
28	70,717	27	74,737	26	77,626	25	89,029	23	84,605	22	22,221	28	117,225	27	78,499		
						31	92,123	30	81,990	29	18,936						

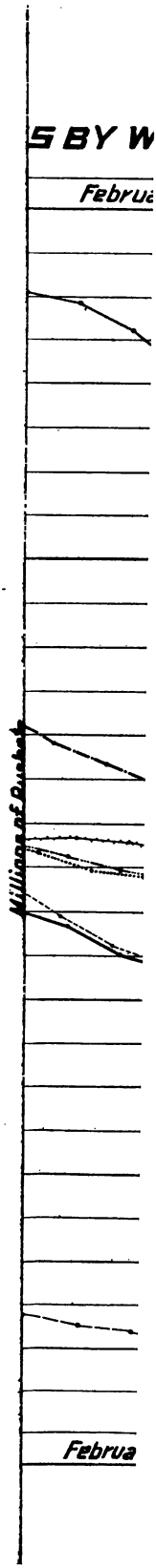
[1] Figures for the remainder of December, 1920, are as follows: 11th, 48,408; 18th, 47,376; 26th, 45,171.

The outstanding feature of this diagram is the enormous accumulation of visible wheat in the crop year 1918–19. Accumulations in 1919–20 were hardly less remarkable, and the carry-over of visible wheat at the end of 1919–20 was greater than at the end of 1918–19. It is therefore evident that a comparison of 1920 accumulations with figures for the two immediately previous years might be expected to show an apparently unfavorable condition, or to make the shortage of accumulations appear more extraordinary than it would if the convenient comparison were with more nearly normal years. Leaving out of account these two immediately preceding years, accumulations of visible stocks of wheat at the end of October were smaller in 1920 than in 1912, 1913, 1914, and 1916, and larger than in 1917 and 1915. The fall of 1917 showed an extraordinarily low rate of accumulation for reasons that are obvious. The movement of the crop from the farm was very slow during that year, because of delay in determining the policy of the Government with regard to a guaranteed price. Accumulations throughout the year 1917–18, however, continued very small, and the controlling factor was of course the smallness of the 1917 crop. In 1915, although the rate of accumulation was slow, the quantity of visible accumulated by January had surpassed that of any other year except the extraordinary year 1918–19. The 1915 crop was bounteous, and there was a heavy carry-over, as well as large stocks on hand, during the latter months of the crop year. In fact, the carry-over at the end of the year 1915–16 was the largest shown at any time during the period covered by the diagram.

The early months of the crop year 1920 appear to be repeating in a somewhat modified degree the experience of the early months of the crop years 1915 and 1917. In 1915, as well as in 1920, there were heavy exports of wheat during the early months of the crop year. Whether the later course of the curve for 1920–21 will more nearly resemble the curve for 1917–18 or that for 1915–16 is a matter of prophecy. The curve for 1915–16 already at the close of October had begun to show a pronounced upward trend, while the curve for 1920 shows no marked upward trend, although its level is higher and has been higher throughout the elapsed months of the crop year. There is no such bumper crop this year as there was in 1915–16 out of which accumulations can be made. On the other hand, the crop is not short as it was in 1917. The controlling factor in the accumulation of visible supplies during the rest of the year would appear to be the strength of the export movement, but with the existing crop there is no such possibility of accumulation of visible supplies as there has been in earlier years.

The conformation of the curves of visible supply is strikingly suggestive of a rapid rate of movement from the country in the fall of 1918 and 1919, quite unusual at least in the period since July 1, 1912. A more detailed consideration of export conditions would, however, be necessary in order to establish the point in question.

The visible supply carried over from the previous crop was not remarkably large in 1920. The carry-over of grain in the United States, however, was undoubtedly large. But the grain carried over had not yet moved from the country, largely because of transportation difficulties. The first half of the calendar year 1920 was probably a period of greater obstacles to the movement of grain than any other six months in the recent history of American railroads. It is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probable that the country carry-over in the Southwest, where the crop of 1919 was large, was greater than ever before. The high prices of the early part of the marketing season of 1920 were therefore obtained despite the probability of ample supplies. That is, the carry-over was very large, the crop in the Southwest which was just being harvested was very large, and prospects for a large spring wheat crop were good. The transportation difficulties, the very large amount of export buying and the very heavy movement of wheat for export during this period were apparently the decisive factors in maintaining prices.

The visible supply figures do not include storage by mills. This is an important factor in the situation. Doubtless the mills had considerable grain in store on July 1, 1920. It is probable that their reserve stocks were smaller on October 1 than on July 1. The demand for flour had not been active, and the mills were affected by financial conditions and by the general feeling that prices should decline. Mill storage on October 1, 1920, is estimated not to exceed 30 or 40 million bushels. Opinions of men in the grain trade are to the effect that the movement of wheat from the country was liberal early in the season at prices in the country around $2.50 to $2.25 per bushel. A Chicago receiver sums up the situation as regards the movement of the crop of wheat as follows: The movement from the country early in the season was liberal. This liberal movement included the Southwest winter wheat district where, however, the crop was large. When prices began to drop there was a considerable quantity left on the farms and there was a tendency to hold these remaining stocks. In the middle belt, farm stocks had been depleted very rapidly, and if there was less movement now it was because there was less to move. In the spring-wheat district of the Northwest there was no opportunity to market the crop at the high prices prevailing early in the season because the crop was not harvested, and in this region there was a considerable amount of holding, to a degree applicable substantially to the entire crop. In the red winter wheat district it is said that the country is largely stripped of supplies. It is said that Colorado millers failed to stock up with local wheat and it has been moved out so that when they need the wheat to grind it will not be there.

With reference to determining the effect of the time of movement of the crop upon the price received by the farmer during the present season, figures of car receipts at various terminals were compiled and from them indices of the rate of marketing were computed and the prices by weeks were compared with these indices. A comparison of the simple average of the prices by weeks from July 19 to the end of October with the average of the same prices weighted according to the per cent of the total marketed in the period that was marketed during each week shows whether the farmer profited by a greater or less degree of unevenness in his rate of marketing. Averages computed in this way do not indicate that the farmers or shippers in the winter-wheat regions gained anything by the distribution of their marketings. In other words, the two average prices are substantially the same. The movement of the crop, therefore, was fairly evenly distributed through this season. An extension of the comparison to a somewhat earlier period, that is, into the last week of June, shows no different results. A similar comparison for the

Northwest, or spring-wheat region, does show a marked difference between the two averages. The fact that the spring-wheat growers could not market their crop early in the season, because it was not yet made, means that they have marketed at a lower price than it was possible for the southwestern wheat growers to get. The results of the comparison made are not sufficiently significant and its basis not sufficiently accurate statistically to warrant presenting the figures in detail.

The course of receipts at Chicago has been indicated above. Chicago has been less important as a wheat market this year than in other years. There has been a falling off not only in its receipts but also in its accumulation of visible supplies. The stock at Chicago has been and is negligible. At no time since September 1 has it been as much as 1,000,000 bushels, and it was rather smaller in October than in September. Public elevator wheat in the middle of November was less than 100,000 bushels, all of which is reported to be Canadian wheat. Stocks at Minneapolis and Duluth are also small, though not so unusually small as at Chicago.

The movement of the crop in the Southwest was, of course, two months earlier than the spring wheat movement and the crop was on the market in July. Here there is a fairly large volume of stocks accumulated; that is, assuming Kansas City to be representative of the Southwest.

At the beginning of section 16 is a table containing estimates of the Department of Agriculture with regard to the supply of wheat in country districts and the movement therefrom during the period July 1 to September 30, 1919 and 1920. According to these figures the movement, including the movement from wheat carried over, was 323,000,000 bushels in the three months of 1919, as compared with 256,000,000 bushels in the three months of 1920. The stock left on hand on October 1 was 657,000,000 bushels in 1919 as against 578,000,000 bushels in 1920. Therefore, 33 per cent of the available supply had moved from the country districts in 1919 by October 1 and 31 per cent in 1920, according to these figures. The difference between the two years is not great. The principal reason for the small visible accumulation of wheat this year is doubtless the rapidity of the export movement.

The fact that visible supplies are low and that the movement from the farm is slow are not important as bull arguments on the price of wheat, at least when taken in combination. The most important argument favoring the idea of higher prices is the heavy export movement, which, if kept up, would mean a demand for wheat from the United States which could not be supplied from our own surplus, and which would even exceed our own surplus augmented by supplies obtainable from Canada.

As regards the basis of bullish sentiment on wheat prices, it is significant that exporters at Baltimore in particular are said to be bullish because they see so large a stream of wheat passing out of the country in export trade. Grain-trade men at Chicago, also, are not, or have not been, of one opinion as to what the price of the 1920 crop will be toward the close of the year. They see low visible supplies; much of the country pretty well stripped of its grain; a heavy export movement; and an ordinary crop. It is true they have also recently been seeing heavy Canadian imports, but at least in the latter part of October there was still a feeling that the Canadian crop

might have been overestimated. There was also uncertainity as to Argentine and Australian crops, although more favorable reports were coming in. According to the "statistical position" one large cash grain man said that wheat could be boosted in price but for the heavy crop of corn and oats. It has even been predicted in some quarters that there will be a shortage of wheat in the United States next spring and suggestions have been made that exports should be curbed to prevent such a shortage and a deplorable bidding up of prices. Such predictions, however, may assume that the export movement will continue as heavy as it has been. They may underestimate the importance of the Canadian surplus; they may give too little consideration to world supply, including favorable crop reports from the southern hemisphere; and they may not take account of the general tendency to a decline in prices. As against the argument for lower prices because of financial conditions and inability to pay, however, it is to be noted that the demand for wheat and flour is not elastic, and that money will be found for their purchase even where it is difficult to find money for other uses. This argument applies with reference to the continuance of heavy exports, if Europe can not be supplied from other sources.

Section 16. Holding wheat for higher prices.

Definite statistics based upon records relating to the holding of wheat for higher prices are not obtainable. There are certain estimates of the Department of Agriculture that are detailed and presumably as reliable as figures of this sort can be made, which are given in the following table:

TABLE 17.—*Movement of wheat from country districts—July 1 to Sept. 30, 1919 and 1920.*[1]

[Thousands of bushels.]

State.	Stock July 1.[2]		Crop.		Supply.		Decrease in supply.[3]		Stock Oct. 1.	
	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920
New York	710	886	11,178	10,797	11,888	11,683	3,588	2,983	8,300	8,700
Pennsylvania	1,809	2,632	29,055	25,949	30,864	28,581	8,964	6,881	21,900	21,700
Maryland	369	434	10,665	12,172	11,034	12,606	1,934	4,906	9,100	7,700
Virginia	561	769	12,508	11,425	13,069	12,194	5,369	4,194	7,700	8,000
Ohio	1,723	5,061	54,440	27,430	56,163	32,491	27,463	11,691	28,700	20,800
Indiana	1,810	2,820	46,020	20,502	47,830	23,322	24,130	11,422	23,700	11,900
Illinois	1,278	3,066	65,675	36,394	66,953	39,460	38,053	21,060	28,900	18,400
Michigan	1,187	1,374	20,237	13,317	21,424	14,691	7,324	3,691	14,100	11,000
Wisconsin	337	721	7,355	5,354	8,192	6,075	1,392	1,275	6,800	4,800
Minnesota	4,063	3,926	37,710	32,940	41,773	36,866	6,573	8,166	35,200	28,700
Iowa	988	1,521	23,675	13,564	24,663	15,085	11,663	6,885	13,000	8,200
Missouri	1,160	4,584	57,886	29,506	59,046	34,090	19,046	13,790	40,000	20,300
North Dakota	3,663	3,753	53,613	65,692	57,276	69,445	8,576	11,345	48,700	58,100
South Dakota	3,924	2,806	30,175	27,416	34,099	30,222	5,599	9,722	28,500	20,500
Nebraska	1,642	5,939	60,675	56,777	62,317	62,716	21,817	18,816	40,500	43,900
Kansas	1,309	20,296	151,001	123,960	152,310	144,256	34,710	37,556	117,600	106,700
Kentucky	342	570	12,029	6,304	12,371	6,874	4,171	2,974	8,200	3,900
Tennessee	169	332	7,290	4,155	7,459	4,487	1,159	1,587	6,300	2,900
Texas	938	2,725	31,350	13,082	32,288	15,807	15,388	9,507	16,900	6,300
Oklahoma	440,	4,804	52,640	39,136	53,080	43,940	16,880	15,940	36,200	28,000
Montana	811	642	10,729	19,994	11,540	20,636	1,840	2,936	9,700	17,700
Washington	830	2,336	40,100	36,104	40,930	38,440	11,230	6,940	29,700	31,500
All other	8,034	11,939	114,981	118,678	123,015	130,617	45,715	41,617	77,300	89,000
Total	38,597	83,936	940,987	750,648	979,584	834,584	322,584	255,884	657,000	578,700

[1] Estimates of the Department of Agriculture, Crop Reporter, August and October, 1920, for crops; and Market Reporter, July 31 and Oct. 16, 1920, for stocks. December estimates for the 1920 crop show increases of 10 per cent or more for the following States: Indiana, Illinois, Missouri, Kansas, Texas, and Oklahoma.

[2] Stocks on farms and in country elevators and mills.

[3] Decrease in supply from July 1 until Oct. 1.

The general totals of this table have received some notice in the preceding section. A comparison of the last two columns, showing stocks by States for October 1, 1920, compared with stocks for the same date last year, is of greatest interest in the present connection. The States showing larger stocks this year than last are New York, Virginia, North Dakota, Nebraska, Montana, and Washington. The absence of any of the States of the southwestern wheat district from this list is significant, as also the presence of Northwestern States. The wheat crop was smaller in some of these States than in 1920. But North Dakota and Montana had sufficiently better crops in 1920 than in 1919 to allow them to retain what they did and also market more up to October 1 than they did in 1919.

The total decrease in the supply in the three-month period, as shown in the next to the last pair of columns in the table, was less in 1920 than in 1919. But some States had disposed of more of their surplus, namely, Maryland, Minnesota, North Dakota, South Dakota, Kansas, and Tennessee. The presence of certain northwestern spring wheat States in the list is noteworthy. Minnesota and South Dakota had less to sell than in 1919, but had sold more up to October 1. The same is true of Kansas and Missouri.

Altogether, evidence of any great degree of holding prior to October 1 is lacking. But the agitation of this question has come mainly since that date. A possible indication of the extent of the holding of wheat by farmers is the figure of visible supplies. These figures are given in detail and discussed in the preceding section dealing with stocks and prospective needs. It appears that visible supplies for this season of the year are low, even in comparison with years previous to 1918 and 1919, although the impression of their smallness is increased by reason of the extraordinarily large visible supplies held in 1919.

There is another explanation, however, for the low visible supplies so far accumulated for the 1920 crop, aside from supposed or actual holding by farmers. Export demand, as already noted, has been very heavy through the first four months of the crop year. Loaded cars of wheat have been sent to a great extent directly to the seaboard for export, instead of passing to the terminal markets. The export demand has been heavy enough to take nearly all the surplus grain shipped. It is probable that there has been a concentration of export demand in the first few months of the year, and that such demand will be a smaller factor in the market during the rest of the year. Under such circumstances visible supplies would inevitably be smaller than usual at this time of the year, since the stocks are held in Europe already, instead of being held here in terminal elevators ready to meet export demand spread more evenly through the year and occurring to a greater extent in the latter part of the year than can be expected to be the case for the current crop year.

Indications of the exceptional character of the present situation are contained in reports of very heavy receipts of durum and exports of durum from Duluth, as contrasted with smaller receipts and an extraordinarily small accumulation of spring wheat stocks at that market. In October there was said to be 2,000,000 bushels instead of 20,000,000 bushels in the visible supply at Duluth this year. Receipts are stated to have been nine-tenths durum instead of one-quarter durum as normally. The visible supply at Chicago in

the latter part of October and since has been only about 700,000 bushels of wheat. Chicago has not been favored as a market this year, because of the increased freight rates and the stronger drawing power of other markets, especially the Gulf ports; but Chicago is the natural market for red winter wheat. It is reported that the red winter wheat territory, where the yield has been rather below the average, has been largely stripped of its supplies by the export demand, which to a large extent has caused cars to be moved direct to Baltimore instead of their coming to the Chicago market. It is said by grain trade men in Chicago that, regardless of whether or not wheat in general will be short in this country next spring, there is bound to be a shortage of red winter wheat, and considerable premiums will be paid for it. There has been little holding of wheat in the section tributary to Chicago.

The holding of wheat in the country districts is not to any extent done by the country elevators, although there is some difference of opinion as to whether there is a tendency on their part to hold. The country elevator or shipper of grain makes his profit by a quick turnover, and there is normally little disposition to hold, especially during the season of heavy marketing, as indeed there is no available room for holding. Country elevators that have not hedged their purchases (as is frequently the case) may often be holding for stocks to go back to a price where they can afford to sell. It is said that lately whenever the price "comes up for air," the country elevators rush a lot of grain to market and thus put it down again. In the Northwest the commission men, who finance shippers to a large extent, say there has been less call for money for country shippers than is usual at this season, and this is considered conclusive evidence that the country elevators in that section are not holding. This reduced call for money to finance the crop relates to years when the crop was about the same in volume as at present. On the other hand, one line company in the Northwest is reported to be holding 600,000 bushels. The possible tendency of even the northwestern country elevators to hedge their purchases less than usual may mean a tendency on their part to hold somewhat more than usual. Some of the apparent holding by country elevators has been due to their retaining grain for which they have given the farmers storage tickets.

Opinions differ as to the extent of grain actually held by the farmers for higher prices, but the difference is chiefly a matter of whether the amount of holding is inconsiderable or large. This refers particularly to the northwestern spring wheat districts. The weight of opinion indicates that farmers there are holding the grain in somewhat greater proportion than usual. This impression is based upon reports of the managers of country elevators of line houses. In the case of one northwestern line consisting of 150 country elevators the percentage delivered to the elevators up to October 1 has been as follows: For the crop year 1917 the figures were 27.3 per cent; for 1918, 38.2 per cent; for 1919, 38.6 per cent; and for 1920, as estimated, 28 per cent. The average actual experience for the three preceding years was 34.7 per cent as compared with a 1920 estimated ratio of 28 per cent. Figures for other lines are similar, that is, marketing is slower this year than in the previous two years, but more advanced than three years ago. The signifi-

cance of such a comparison, however, is subject to some qualification with reference to the fact that in the fall of 1917 the farmers were holding back their wheat waiting for the Government to establish its price, while in 1918 and 1919 the Grain Corporation was purchasing at a guaranteed minimum price, which seemed to be sufficient, and which therefore seemed to give no inducement to the farmer to hold for an increase in price. In view of these facts, the evidence of holding in 1920 presented by such figures as these is not strong. As regards the territorial distribution of holding in the Northwest, it is said to be more pronounced in Montana and North Dakota and not noticeable in the eastern part of the spring wheat district. It is said that the banks in the western section are helping the farmers to hold. A good deal of the impression that the farmer is holding may be due to the fact that he is very much dissatisfied with the price.

One expedient that has been adopted to a considerable extent in the Northwest by which the farmer is enabled to reserve for himself the benefit of expected higher prices in the spring, without the actual movement of the grain to terminal markets being any less prompt, is the giving of storage tickets to the farmer by the country elevator for grain delivered, the farmer retaining ownership and having the privilege of selling later at his own option. In such a case the elevator usually ships out the grain and buys a future against it, thus hedging its liability to the farmer. When the farmer decides to sell, the elevator sells the future and thus loses or gains from the price change in the future enough to make up the difference between the price it obtained when actually parting with the farmer's grain and the price it pays the farmer for it. This is not a new practice in the Northwest, but it is quite possible that it is resorted to more extensively than usual this year. One elevator company reports $20,000 lent on such storage tickets as security. It is perhaps especially true of durum that the grain is being shipped out rapidly, even though the farmer has not sold, and the country elevator is protected by a hedge. So far as this policy is adopted, the volume of the grain movement is not a measure of the extent to which the farmer has actually sold.

Some commission men in the Northwest say that the farmer this year is using the futures market more than usual; others say that he is not. The expedient referred to in this case is the selling of the cash wheat to the elevators and the purchasing of a future to hold in place of the actual wheat. The fact that the wheat futures are at a considerable discount might be interpreted by farmers as a good reason for handling the problem this way, even apart from an expectation that grain prices will be higher later in the year. There is no reason to suppose that such an expedient as that referred to would be extensively adopted elsewhere, since in the Northwest the farmers as well as the country elevators more easily think of trading in grain in terms of hedges and futures.

In the Southwest or hard winter-wheat territory there was a much better crop than in the Northwest. It is possible that the farmers here may still have a great deal of grain, and indeed an unusual proportion, on hand, although they have also marketed some of the wheat very rapidly. One grain dealer in Kansas City estimates that the marketing is at a rate of 60 per cent behind the normal for Kansas

and 50 per cent behind the normal for Oklahoma. These are doubtless extreme figures. Another grain dealer in this section says that the farmers are inclined to hold but do not do so except in eastern Kansas, and says that the grain seems to move about as fast as the cars can be accumulated to move it. Holding appears to be sectional rather than general. One commission man said there was a decline of 80 per cent in receipts from farmers for his house in the third week of October as compared with previous weeks. Others cite their correspondence files as proof that the farmers are holding.

Section 17. Legal situation regarding suggested remedies.

Various remedies were suggested to the President by the complaints, as already indicated in section 1 of this report. Among the remedies suggested were (1) an embargo on Canadian wheat imports, (2) a dumping duty on the importation of Canadian wheat, and (3) the prevention of alleged price manipulation by the Chicago Board of Trade, or other exchanges dealing in wheat or wheat futures.

With regard to the suggestion that an embargo be placed on Canadian wheat, such action is probably not possible as a matter of law, under the Lever Act, or under any other existing statute.[15] The President, prior to June 1, 1920, exercised by proclamation the power to prohibit imports and exports of wheat. Such proclamations were made pursuant to the authority conferred by section 6, chapter 125, of an act of Congress approved March 4, 1919,[16] which is entitled "An act to enable the President to carry out the price guaranties made to producers of wheat of the crops of nineteen hundred and eighteen and nineteen hundred and nineteen, and to protect the United States against undue enhancement of its liabilities thereunder." The provisions of section 6 of this act are as follows:

> Whenever the President shall find it essential in carrying out the guaranties aforesaid, or to protect the United States against undue enhancement of its liabilities thereunder, and shall make proclamation thereof, it shall be unlawful to import into the United States from any country named in such proclamation, or to export from or ship from or take out of the United States to any country named in such proclamation, wheat, semolina, or wheat flour, except at such time or times, and under such regulations or orders, and subject to such limitations and exceptions as the President shall prescribe, until otherwise ordered by the President or by Congress: Provided, That no preference shall be given to the ports of one State over those of another. * * * Provided further, That when the President finds that the importation into the United States of any wheat, semolina, or wheat flour produced outside of the United States materially enhances or is likely materially to enhance the liabilities of the United States under guaranties of prices therefor made pursuant to law, and ascertains what rate of duty, added to the then existing rate of duty on wheat and to the value of wheat, semolina, or wheat flour at the time of importation, would be sufficient to bring the price thereof at which imported up to the price fixed or prevailing under the direction of the President under or pursuant to this act, he shall proclaim such facts, and thereafter there shall be levied, collected, and paid upon wheat, semolina, or wheat flour when imported in addition to the then existing rate of duty the rate of duty so ascertained; but in no case shall any such rate of duty be fixed at an amount which will effect a reduction of the rate of duty upon wheat, semolina, or wheat flour under any then existing tariff law of the United States.

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[15] 40 U. S. Stat. L., ch. 106, sec. 11, p. 422 (Trading with the enemy act), empowers the President to prohibit importations, but apparently under such circumstances as have no relation to the situation under discussion.

[16] United States Compiled Statutes 1916, Supp. 1919, Sec. 3115 1/8 kk. (6); 40 United States Statutes at Large, 1349.

A reasonable interpretation of this section indicates that this authority can not be exercised, unless the President "shall find it essential in carrying out the guarantees aforesaid, or to protect the United States against undue enhancement of its liabilities thereunder." That a similar opinion was entertained by those who drafted the proclamation is evidenced by its recitals to the effect that the President has found such a proclamation "essential in carrying out the guarantees," etc. This opinion is also confirmed by the first section of the act, immediately following the above-quoted preamble. It expressly states the purposes for which these powers are conferred upon the President. Its provisions are as follows:

By reason of the emergency growing out of the war with Germany and in order to carry out the guaranties made to producers of wheat of the crops of nineteen hundred and eighteen and nineteen hundred and nineteen by the two proclamations of the President of the United States dated, respectively, the twenty-first day of February, nineteen hundred and eighteen, and the second day of September, nineteen hundred and eighteen, pursuant to section fourteen of "An act to provide further for the national security and defense by encouraging the production, conserving the supply, and controlling the distribution of food products and fuel," approved August tenth, nineteen hundred and seventeen, and to protect the United States against undue enhancement of its liabilities under said guaranties, the instrumentalities, means, methods, power, authorities, duties, obligations, and prohibitions hereinafter set forth are created, established, conferred, and prescribed.[17]

Moreover, the power conferred upon the President by the act[18] under which the import or export of wheat was prohibited, except under certain circumstances, is expressly limited as to the time within which it must be exercised, the provisions thereof being as follows:

The provisions of this act shall cease to be in effect whenever the President shall find that the emergency growing out of the war with Germany has passed and that the further execution of the provisions of this act is no longer necessary for its purposes, the date of which termination shall be ascertained and proclaimed by the President; but the date when this act shall cease to be in effect shall not be later than the first day of June, nineteen hundred and twenty. * * *

An examination of the so-called Lever Act has failed to disclose any provision which empowers the President to lay an embargo on Canadian wheat other than the provisions above discussed, and it is, as already indicated, the opinion of the Commission that this power could have been exercised by the President only so long as there was a fixed price and Government control of wheat in the United States.

Although the existing tariff law of the United States levies conditionally a duty on wheat of 10 cents per bushel, and on flour of 45 cents per barrel, by the terms of the law that duty is suspended and can not be restored, except by revision of the law or through the action of Canada in establishing a duty upon American wheat and flour entering that country. The tariff statute[19] provides as follows:

That on and after the day following the passage of this Act, except as otherwise specially provided for in this Act, the articles mentioned in the following paragraphs shall, when imported into the United States or into any of its

[17] Sec. 3115 1/8 kk (1) United States Comp. Stats. 1916, Supp. 1919.
[18] Sec. 3115 1/8 kk (11) United States Comp. Stats. 1916, Supp. 1919.
[19] United States Comp. Stats. 1916, section 5291, chapter A, subsection 644 (p. 6401). (Act of Congress approved Oct. 3, 1913, chap. 16, sec. 1, as amended, Act Apr. 27, 1916, chap. 93, and Act Sept. 8, 1916, chap. 463, secs. 500–502, 600).

possessions (except the Philippine Islands and the islands of Guam and Tutuila) be exempt from duty:

* * * * * * *

644. Wheat. Wheat, wheat flour, semolina, and other wheat products, not specially provided for in this section:

Provided, That wheat shall be subject to a duty of 10 cents per bushel, that wheat flour shall be subject to 45 cents per barrel of 196 pounds, and semolina and other products of wheat, not specially provided for in this section, 10 per centum ad valorem when imported directly or indirectly from a country, with dependency, or other subdivision of government which imposes a duty on wheat or wheat flour or semolina, imported from the United States.

On April 16, 1917, Canada removed, by order in council her duties on wheat, wheat flour, and semolina, thus taking advantage of the clause in the United States tariff law (above quoted) providing for the reciprocal free admission of these products.[20] Subsequently this order in council was superseded by an amendment to the Canadian customs tariff law of 1907. This amendment, however, does not change the situation. The Canadian law as amended provides that wheat, wheat flour, and semolina shall be free of duty.

Under the provisions of the United States Statutes, therefore, wheat, wheat flour, and semolina, among other things, were placed on the reciprocal free list, or on what might be called the conditional free list, subject to be taxed at the rate specified in the statute, if they were imported from countries whose laws imposed "a duty on wheat or wheat flour or semolina imported from the United States."

But there is nothing in the tariff laws of the United States that can be construed or interpreted in such manner as to amount to a reciprocity agreement or any other kind of an agreement or understanding with Canada, tacit, implied, or expressed. There is nothing to hinder or prevent the United States from repealing or amending the section of its present tariff law, which allows the above-mentioned commodities to be introduced into the United States from Canada free of duty. The Congress can impose such duty any time it sees fit so to do.

The tariff laws of the United States also contain an antidumping clause[21] which reads as follows:

That it shall be unlawful for any person importing or assisting in importing any articles from any foreign country into the United States, commonly and systematically to import, sell, or cause to be imported or sold such articles within the United States at a price substantially less than the actual market value or wholesale price of such articles, at the time of exportation to the United States, in the principal markets of the country of their production, or of other foreign countries to which they are commonly exported, after adding to such market value or wholesale price, freight, duty, and other charges and expenses necessarily incident to the importation and sale thereof in the United States: *Provided*, That such act or acts be done with the intent of destroying or injuring an industry in the United States, or of preventing the establishment of an industry in the United States, or of restraining or monopolizing any part of trade and commerce in such articles in the United States * * *.

This is evidently not applicable or available in reference to the problem of Canadian imports, because (1) there is no reason to believe that wheat from Canada has been sold generally at lower prices

[20] Report on Reciprocity and Commercial Treaties, 1919, by United States Tariff Commission.

[21] A United States Compiled Statutes, 1916, sec. 8836 m; 39 United States Statutes at Large, 798 (act of Sept. 8, 1916, chap. 463, sec. 801).

in this county than in Canada, and (2) there is neither any evidence nor any probability of any attempt to injure the wheat industry of the United States on the part of persons importing Canadian wheat.

With regard to putting an end to speculation or trading in futures by authority of the President, it appears that his general powers under the act of August 10, 1917, have not expired. Section 13 reads in part as follows:[22]

> That whenever the President finds it essential in order to prevent undue enhancement, depression, or fluctuation of prices of, or in order to prevent injurious speculation in, or in order to prevent unjust market manipulation or unfair and misleading market quotations of the prices of necessaries, hereafter in this section called evil practices, he is authorized to prescribe such regulations governing, or may either wholly or partly prohibit, operations, practices, and transactions at, on, in, or under the rules of any exchange, board of trade or similar institution or place of business as he may find essential in order to prevent, correct, or remove such evil practices. Such regulations may require all persons coming within their provisions to keep such records and statements of account, and may require such persons to make such returns, verified under oath or otherwise, as will fully and correctly disclose all transactions at, in, or on, or under the rules of any such exchange, board of trade, or similar institution or place of business, including the making, execution, settlement, and fulfillment thereof. He may also require all persons acting in the capacity of a clearing house, clearing association, or similar institution, for the purpose of clearing, settling, or adjusting transactions at, in, or on, or under the rules of any such exchange, board of trade, or similar institution or place of business, to keep such records and to make such returns as will fully and correctly disclose all facts in their possession relating to such transactions, and he may appoint agents to conduct the investigations necessary to enforce the provisions of this section and all rules and regulations made by him in pursuance thereof, and may fix and pay the compensation of such agents.

Section 24 of this act defines when it shall cease to be operative and reads in part as follows:

> That the provisions of this act shall cease to be in effect when the existing state of war between the United States and Germany shall have terminated, and the fact and date of such termination shall be ascertained and proclaimed by the President.

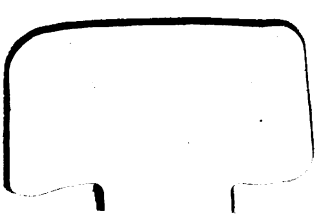
Under this act it seems evident that the President would have to find as a fact that future trading was a practice that caused undue enhancement, depression, or fluctuation of prices of necessaries, or that it amounted to injurious speculation in, or resulted in unjust market manipulation of, the prices of necessaries, before he could consistently find that it was essential in order to prevent, correct, or remove such evil practices either wholly or partly to prohibit such future trading operations, practices, and transactions under the rules of any exchange, board of trade, or similar institution. These are substantially the words of the statute. Under present conditions, at any rate, actual warfare having ceased, it appears that an attempt to exercise the powers granted would in all probability raise complicated questions of fact and cause legal conflicts over points of constitutional law.

The closing down of future trading in wheat by the Chicago Board of Trade in the spring of 1917 was prior to the passage of this law, but it is generally understood that it was with the sanction and even at the suggestion of Government officials. After the law was passed

[22] United States Compiled Statutes, 1916, Supp. 1919, vol. 1, sec. 3115–1/8 K (13); act Aug. 10, 1917, ch. 53, sec. 13; 40 United States Statutes at Large, 280.

there were numerous occasions on which informal suggestions were made by the Food Administration with respect to the operation of the produce exchanges which were apparently generally observed and were never contested.

All of which is respectfully submitted.

HUSTON THOMPSON, *Chairman.*
NELSON B. GASKILL.
JOHN GARLAND POLLARD.
VICTOR MURDOCK.

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